Salemabad, Kingdom of Bahrain

RAMEE INTERNATIONAL HOTEL ONLINE WEBSITE

A Software Engineering Project Presented to the Faculty of the

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Bachelor of Science in Business Informatics

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Abstract

Our software system “Online Booking System for Ramee hotel” is meant to be very simple and focused on the reservation process of the Ramee hotel. It doesn’t include any accounting program and nor any customer services system

Software development process is a structure imposed on the development of a software product. Synonyms include software life cycle and software process. There are several models for such processes, each describing approaches to a variety of tasks or activities that take place during the process.

A growing body of software development organizations implements process methodologies. The international standard for describing the method of selecting, implementing and monitoring the life cycle for software is ISO 12207.

CHAPTER I

INTRODUCTION

We plan to develop an alternative website for Ramee International Hotel situated in Bahrain. We will create an online form where guests can send their reservation request to the hotel before their arrival and book the room.

Our software will be developed using Microsoft Windows operating system using, the latest software developing techniques. The software is hospitality software designed for full service luxury inns, bed & breakfasts, and resorts. It emphasizes the highest level of individual guest services through our comprehensive features.

The website will enhance the current website that is available now and make it more robust and user friendly.

1.0 Background of the study

Bahrain's premier 4 star hotels, the **Ramee International**, situated on Juffair, in the very heart of the city.

Built over 40 years ago before business travel existed and built with the concept of offering luxury and space, the hotel continues to be **BAHRAIN'S** premier 4 star hotel.

120 superbly appointed Rooms and suites; each equipped with all modern conveniences that today's demanding traveler has come to take for granted.

Added to a host of superb entertainment and dining options that are truly breathtaking in their diversity and range.

2.0 Company's current situation

The hotel currently has a website where all its features do not work properly. The links are not functional 100%. The website is outdated in terms of design and content.

But the hotel has many good features too. Rooms at the Ramee are unlike any modern hotel: - well—equipped and comfortable with all the facilities that today's demanding traveler expects, with the high ceilings giving a feeling of spaciousness, comfort and luxury.

Their Business Centre offers full round-the-clock business facilities; day or night we provide secretarial assistance with communications to telephone,

Tele-fax and Internet connectivity. Business conferences can also be arranged and are hosted in our fully- equipped conference center — A fully dedicated banqueting department to meet every need.

3.0 Purpose of the study

The purpose of our website development is to enhance the existing website of Ramee hotel. The website looks very old and outdated, which was developed in 1999.

We tend to create an enhanced website for the hotel along with a reservation form, where guests can send online their reservations to the hotel

Objectives of the study

3.1 General Objectives: The general objective is to develop an online reservation system for Ramee hotel.

3.2Specific Objectives:

- To identify how the existing reservation system of Ramee International Hotel operates
- To determine the problems encountered in the existing system
- To develop the proposed system that will provide:
- user friendly and creative design
- Efficient way of sending reservation requests
- Saves time and convenient
- To determine if the proposed system is technically, operationally and economically feasible for implementation.

4.0 Hypothesis of the study

Ha: There is significant difference between the existing and the proposed system in terms of Efficiency, Performance affectivity & reliability.

Ho: There is no significant difference between the existing and the proposed system in terms of Efficiency, Performance affectivity & reliability.

5.0 Scope & Delimitations

Scope: The online reservation system is implemented for Ramee Hotel, Bahrain. It's a new system using HTML, Microsoft FrontPage and Access.

The website will have the following features:

- Home page – the main homepage of the website with links to the subsequent pages
- About us page – it will have brief information about the hotel
- Facilities – this page will provide the various facilities offered by the hotel
- Dining & Entertainment - this page will provide the various restaurants and entertainment facilities offered by the hotel
- Online Reservation form – this is the online reservation page, where customers can book their room and do the online payment
- Contact us page – this is the contact details of the hotel

Delimitations: The delimitation of the designed website is that it will focus more on the hotel website information and reservation form interaction between the users and the hotel management and less on the other service offered by the hotel.

6.0 Definition of terms

Online system: A software system that is connected to the internet, whereby customers can browse the pages and also interact online.

Online Reservation system: An online system, where customers can book or buy certain product online and do the payment online using their credit cards.

Reservation system: the act of reserving (a place or passage) or engaging the services of a person or group.

Website: A set of interconnected web pages, usually including a homepage, generally located on the same server, and prepared and maintained as a collection of information by a person, group, or organization.

Microsoft Access: Database management system (DBMS) that functions in the Windows environment and allows you to create and process data in a database.

Software system: Written programs or procedures or rules and associated documentation pertaining to the operation of a computer system and that are stored in read/write memory; system consisting solely of software and possibly the computer equipment on which the software operates.

Computer software: It is a general term used to describe a collection of computer programs, procedures and documentation that perform some tasks on a computer system. The term includes application software such as word processors which perform productive tasks for users.

Microsoft Office Picture Manager: Is a software program included with recent versions of the Microsoft Office suite for Windows. It is a basic image-editing program, designed to be similar to Adobe Photoshop elements and other such programs. The Picture Manager has a few capabilities not present in the Paint program included with Windows, but not too many. It has the ability to crop, resize, and convert images between various formats, but for more than just very basic tasks users would probably wish to use a more powerful program such as Adobe Photoshop or The GIMP.

Data base: It is a structured collection of records or data. A computer database relies upon software to organize the storage of data. The software models the database structure in what are known as database models.

CHAPTER II

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents materials, literature and other various studies needed during the research process of this project.

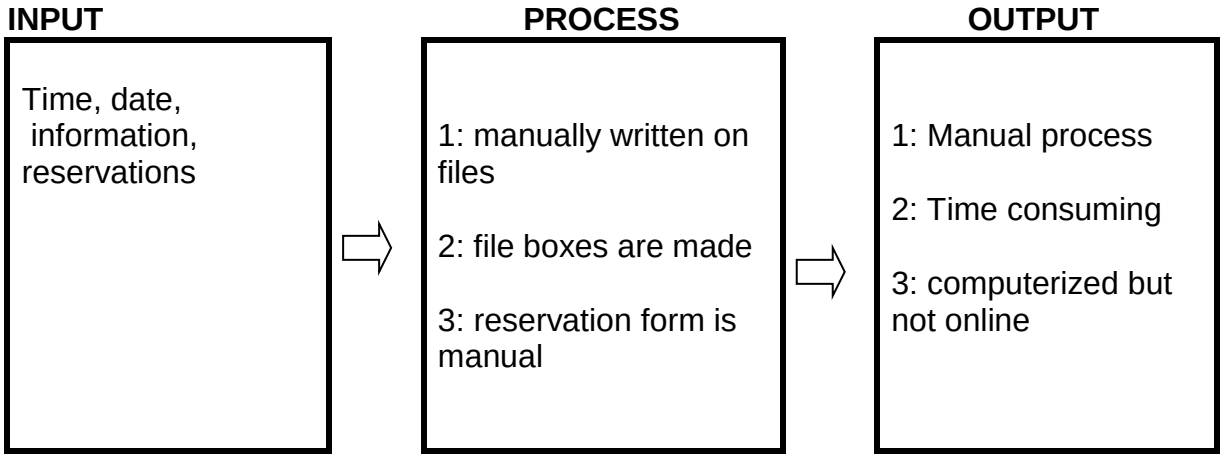
1.0 Theoretical framework of the study

The theoretical framework of the study shows the relationship of three variables, i.e. the input, process and output of the system.

The input-process-output structural framework (see Figure 1.0) is a specification of how different input, intermediate, and output variables form causal relationships in a system.

The following graphical representation will illustrate the IPO of the existing and the proposed system.

EXISTING SYSTEM



DESIGNED SYSTEM

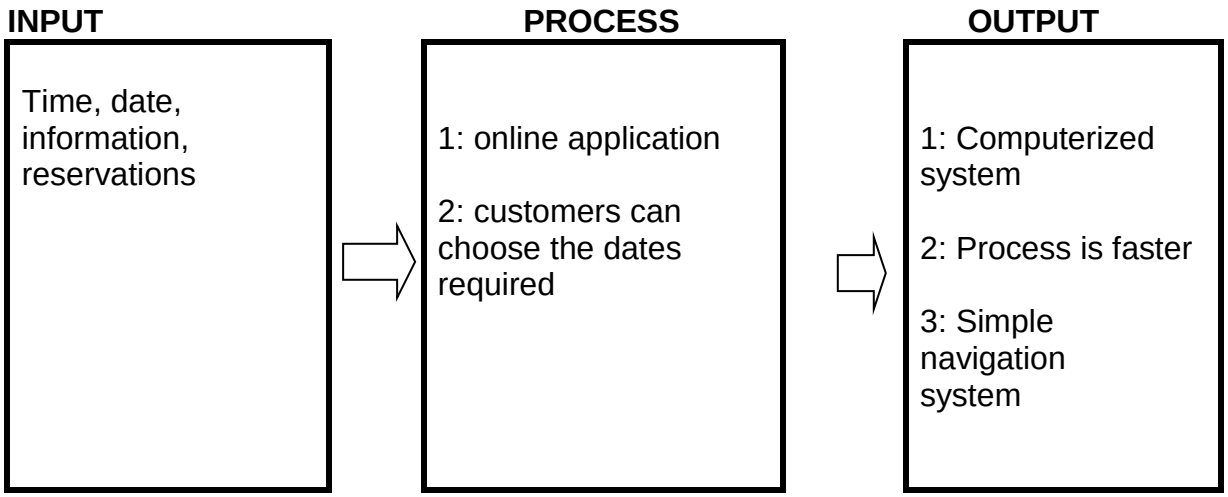


Figure 1.0

Theoretical Framework of the Existing and the Designed System

2.0 Conceptual framework of the study:

Our software will be developed using Microsoft Windows operating system using, the latest software developing techniques, **an alternative website for Ramee International Hotel situated in Bahrain. We will create an online form where guests can send their reservation request to the hotel before their arrival and book the room**, The software developed is technically feasible in terms of bugs free and reliability, The system was checked for accuracy and other procedures for smooth flow of the site The hardware and the software tools utilized were able to meet the requirements. Based on the hardware and software tools, as mentioned earlier in the *specification* section, the design and development of the site was implemented successfully, The researchers were able to determine the accuracy, efficiency, reliability, and conciseness and user friendliness of the designed system.

3.0 Related literature

3.1 Local Literature: Less than 10 years ago, in an effort to increase economic diversification, Bahrain decided to examine the potential development of the tourism industry within the wider national economic context.

As a result, the industry has started to play a crucial role in the economic prosperity of Bahrain by acting as an important source of income and employment.

Tourism is not new in Bahrain, but it was only in 1985 when the first step was taken to organize this industry.

According to an article from a book “working on the Arab Internet” where Ms. Halah Fattah had written an article called “ writing for an Arab Internet portal” (Dr. Halah Fattah was Visiting Assistant Professor in the History Department and Center for Contemporary Arab Studies at Georgetown University from 1990 to 1993. She is author of *The Politics of Regional Trade in Iraq, Arabia, and the Gulf, 1745-1900* (1997). She has worked in former Crown Prince Hassan's office and now is an editor of the Bulletin of the Royal Institute for Inter-Faith Studies in Amman).

“Most Arab portals have done their research; they can tell you who their audience is, and what their ages and occupations are. But from where I stood, writing history in Amman, none of this profiling seemed to have pinned down the real preferences of the repeat user, the visitor that returns to the site over and over again because he has found in it what conforms to his taste and opinion..”

Such articles helps us understand the need of the hour, as we need to know what keeps users interested on a website and keeps them coming back for more. The general idea we get is that any website being developed should have broad range of appeal and not be limited to one aspect of the society alone.

According to an article written by Ramzi Nasser and Kamal Abouchedid in their book “Problems and the Epistemology of Electronic publishing in the Arab World: The Case of Lebanon”

“Internet companies and Internet providers in the Arab world have substantially grown. For instance, the Yarmouk, a college town in Jordan, has the highest density of Internet cafés per square mile in the world, verified in the Guinness records. Countries like Jordan and the United Arab Emirates have gone to great lengths to develop infrastructures akin to those of Silicon Valley cities to make possible mega-technology economies. Therefore, information technology does not appear as a mirage in Arab countries as it has moved smoothly into the lives and work of people just like other places in the world. However, every introduction of new technology into society carries with it a latent impact (Strangelove, 1994) such that it will have an impact on social, economic, and political structures.”

The need to learn the latest technology in internet is widespread in the Arab world, but lacks of technology know how has set back the new generations. Our research aims to show that we can create and develop good software with limited technology also.

An article written by Ms. Haleh Nazeri, Iran on "**Imagined Cyber Communities, Iranians and the Internet" published in the** Middle East Studies Association Bulletin, Vol 30, No. 2, December 1996*:*

"The mere ability to discuss issues like politics and breaking traditions creates an open channel for networking and communication that most other resources can't match. How the deluge of information and networking on-line crosses over to non-electronic venues can be seen in some current electronic network projects."

Any website being developed should be a means of communication between the user and the company, school or organization. A website should be developed in such a way that users can interact via online and get results faster and in a more efficient way as these results in zero time consumption.

In seminar on “E-tourism, the route to competitive success”, which was held in Damascus, Syria on 27th April 2004 by Mr. Amr Abdel Ghaffer, WTO Regional Representative for the Middle East, stated that:

“Despite the challenges to international tourism over the past 3 years, the potential for long-term growth is still apparent. A major factor supporting continuing growth is dramatic increase in the use of the Internet, which has transformed the world into a global village, which can be navigated at the click of a mouse.”

Internet technology has changed the way people do business in the 21st century and even travel. Checking out countries, luxury resorts, cultures, climates have become much easier and faster due to the Internet, as many countries worldwide have state of the art websites dedicated to their country in order to boost tourism in their country.

News article on the “10th meeting of the board of directors of the tourism high authority”, published in “Ain Al-Yaqeen paper” Saudi Arabia on April 16, 2004 stated that:

“Prince Sultan Ibn Salman briefed the board about a proposal to launch a study for e-tourism among Arab states. This proposal was in response to a decision taken at the Sixth ministerial meeting of the Arab Council of Tourism that was held in Sharm El Sheikh, Egypt, recently. A task force with members from Jordan, the United Arab Emirates, Qatar and Kuwait-

-has been proposed to study and explore ways and means to promote inter-Arab state tourism."

One of the ways to promote tourism among all the Arab states is to have a unified internet presence, where each countries tourism activities can come under one roof. Having a common website can unite all the Arab states under one banner.

3.2 Foreign Literature

According to Mr. A Poon, in his book "**Caribbean Future", published in June 1993, regarding tourism, technology and competitive strategies, states that:**

"Tourism, the world's fastest growing industry, is now entering a more mature phase with the central role of information technology in creating mass tourism by the mid-1970's, and how this technology and innovation is creating a new "best practice" of flexibility, market segmentation and diagonal integration within tourism."

According to Mr. B. Prideaux, in his book "**Tourism and Hospitality Services Management: Theory and International Applications", published in December 2005, states that:**

"To enhance theoretical and practical understanding of quality management in tourism and hospitality,

We should provide a benchmark of current knowledge, and examine the range of research methods being applied to further develop tourism and hospitality service management research."

According to Mr. E Laws, in his book "**Improving Tourism and Hospitality Services", published in October 2004, states that:**

"Consumer satisfaction is a key issue for all those involved in tourism and hospitality services and the challenges of managing tourism and hospitality businesses in order to produce maximum customer satisfaction and the role that marketing can play in tourism and hospitality services"

An article published in "Information technology society website" – www.ist.org stated under the following headline that:

"Wireless tech makes tourism splash

Opening Europe's inland waterways to a new generation of travelers is a new system for the tourism sector. Having undergone a test demonstration at the end of May, it will provide up-to-date, location-based information on everything from good restaurants to nearby emergency services.

Developed under the EurEauWeb, IST project combines mobile communications, location sensing and detailed information and, if -

-successful, could become the platform of choice for hundreds of other guides on everything from wilderness

trekking to navigating museums. What's more, the system responds not only to tourists' needs, but also to those of boat operators and other leisure companies"

This is an online tourism website, which provided us insight knowledge regarding the technical capabilities in developing a state of the art websites. Although we won't be using such high level technology in designing and developing our website, nevertheless it provided us the information required to assemble our website.

Article appeared on "Credit Waivers" website for Woodinville High School Website, maintained by WHS students for the registration process – www.nsd.org:

"Soon your students will be selecting the classes they wish to take during the next school year. The registration process will be done by computer this year as opposed to the arena scheduling done in the past. The process is designed to allow completion during time set aside in the school day. We want your student to take the primary responsibility for making good decisions about the courses they select. In addition we want to involve you as parents to provide support and good advice."

Information Technology (IT), as defined by the Information Technology Association of America (ITAA),

Is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit, and securely retrieve information.

4.0 Related studies

4.1 Foreign studies: Access allows relatively quick development because all database tables, queries, forms, and reports are stored in the database. For query development, Access utilizes the Query Design Grid, a graphical user interface that allows users to create queries without knowledge of the SQL programming language. In the Query Design Grid, users can "show" the source tables of the query and select the fields they want returned by clicking and dragging them into the grid. Joins can be created by clicking and dragging fields in tables to fields in other tables. Access allows users to view and manipulate the SQL code if desired.

The programming language available in Access is, as in other products of the Microsoft Office suite, Microsoft Visual Basic for Applications. Two database access libraries of COM components are provided: the legacy Data Access Objects (DAO),

Which was superseded for a time (but still accessible) by (ADO) ActiveX Data Objects however (DAO) has been reintroduced in the latest version, MS Access 2007.

Mitch Meyerson (2005), states that E-commerce sales are predicted to reach $40 billion by 2010 and, as a result, online businesses are going to skyrocket 500 percent. The challenge for all online business owners is to attract new customers and stand out in today's cluttered marketplace. (Ref: Success Secrets of the Online Marketing Superstar, Kaplan business publications, USA 2005)

Joann (1997), states that standards for online communication gives you guidelines for how to place information online within your company. It provides both a design and development process and a set of guidelines for the Internet, intranets, and help systems for designers and authors who need to create effective electronic information.

Everybody wins when e-commerce works like it should; the customer's needs are fulfilled, they have a good shopping experience, and you make more sales.

4.2 Local studies: One of the local projects that caught the researcher's eye and helped a lot is the arabeyes.com. It is a locally developed website, which helps users to arabize the UNIX language.

Mohammed Sameer of Cairo is just 24 and a pharmacy graduate. But he's one of the thirteen or so active young people who are working hard to open new vistas to the world of computing, especially in Asia. Called Arabeyes, this team is working to make computing more relevant to the hundreds of millions using Arabic lettering across the globe.

Arabeyes is a Meta project that is aimed at fully supporting the Arabic language in the Unix/Linux environment. It is designed to be a central location to standardize the Arabization process. Arabeyes relies on voluntary contributions by computer professionals and enthusiasts all over the world.

5.0 Significance of the study

-Technological significance: This website will use the latest Microsoft Front Page 2005 to create and develop the software. HTML will be used for the various programming functions of the website. The significance of this technology is that the researchers can develop a creative and reliable website by using these tools.

-Educational significance: The site will help the hotel to save time on physical paperwork, while responding to customer service. This type of process can create interest for other countries to develop such system.

-Economical significance: It will save time, money and effort of the company to operate in an efficient way. The designed website will not take more than three months for completion and the development cost is also very minimal.

6.0 Overview of the software

Our aim is to incorporate a range of information technology both tangible and intangible to aid the running of day to day hotel operations. The operating system I have chosen to implement is Microsoft Windows XP Business combined with Office small Business 2007.

Web development is a broad term for any activity related to developing a web site for the World Wide Web or an intranet. This can include e-commerce business development, web design, web content development, client-side/server-side scripting, and web server configuration.

However, among web professionals, "web development" usually refers only to the non-design aspects of building web sites, e.g. writing markup and coding.

Web development can range from developing the simplest static single page of plain text to the most complex web-based internet applications, electronic businesses, or social network services.

We have used HTML, FrontPage and Access 2003 to develop this website. For larger businesses and organizations, web development teams can consist of hundreds of people (web developers). Smaller organizations may only require a single permanent or contracting webmaster, or secondary assignment to related job positions such as a graphic designer and/or Information systems technician. Web development may be a collaborative effort between departments rather than the domain of a designated department.

In addition, cost of Web site development and hosting has dropped dramatically during this time. Instead of costing tens of thousands of dollars, as was the case for early websites, one can now develop a simple web site for less than a thousand dollars, depending on the complexity and amount of content.

CHAPTER III

THE ANALYSIS PHASE

This chapter deals with the methods of research used, data gathering instruments, the analytical tools implied and the methods used in developing the software system, justification of the method used and methods used for product evaluation. These research methods help the researchers to systematically design and develop the software.

1.0 Methods of Research used

The researchers made use of different methods of research that is important for this type of study and development.

1.1 Descriptive Method: It is a fact finding method with adequate interpretation. It is a process of gathering, analyzing, classifying and tabulating data about prevailing conditions, practices, process and trends. The interpretation of the gathered data would help the researchers in conducting thorough analysis on the requirements of such a system.

For the software project, the researchers tried to find out, if such a system would be useful in the market and would it be accepted.

The acceptance of the software system would depend on the number of people who use the system.

1.2 Creative Method:

This research is a reflective thinking in a situation of aesthetic values. This method is used to help the researchers in utilizing their creativity in design and development. In order to do the website, lot of research and innovative ideas are needed to attract clients / customers. The system should be reliable and quality driven in order to gain the trust of the users. Thus with the help of reliable software's such as Microsoft tools, the researchers can design and develop a user-friendly and innovative system.

1.3 Prognostic Method:

This method looks into any scientific investigation, whereby the main purpose is to forecast the future operations of the factors investigated, such as if any technical problems in the software will arise or not and the operations of the online system connectivity.

One of the most reliable methods of ensuring problems, or failure, in a large, complex software project is to have poorly documented requirements specifications. Requirements are the details describing an application's externally-perceived functionality and properties. Requirements should be clear, complete, reasonably detailed, cohesive, attainable, and testable.

2.0 Data Gathering Instrument:

During a research process, data's should be collected, organized, classified and analyzed to help the researchers in the development process and enhance the management system development. The researchers used the following instruments while gathering the required data for the development process:

2.1 Observation:

It is essential for researchers to employ observation as one of the methods for data gathering. This method helps when certain data cannot be accessed or sourced through questionnaires or by other means.

The researchers should do thorough observation of a particular existing system or documents of its own. Using this type of technique the researchers will be able to gather information that may be vital to the design and development of the software.

2.2 Questionnaire:

The questionnaires, is a procedure, where the researchers submits pre-planned questions to a selected few individuals or a group to gather their views and opinion in the development process. (See attached appendix E)

For the software, this questionnaire can be given to the hotel staff. This instrument is used to know if the designed system is effective to the users and also to determine if developing such a system will be productive.

2.3 Informal Interview:

We have also conducted some interview with the hotel staff based on the questionnaire. From this informal interview we were able to analysis what type of website the hotel wanted. (See attached appendix D)

2.4 Evaluation form:

This method is used to know the views and opinion of selected few individuals of the existing system and the designed system. This method or process will refine the management system development and design. (See attached appendix E)

3.0 Analytical Tools

Analytical tools helps the researchers to design and develop a system in a more systematic way, as it gives a defined approach to each step of the development process. By using analytical tools the researcher will be able to analyze the existing and the proposed system in detail.

3.1 Data Flow Diagram (DFD):

The DFD shows the data process of the entire system. It depicts the complete process of the system and its various functions. The diagram consists of entity, flow of data, process and data store. Using this diagram, the researchers were able to visualize how the data should flow through the system. (See attached appendix A).

3.2 Visual Table of Contents (VTOC):

VTOC chart shows the hierarchy of the system, from the top level to the bottom. This chart provides a map that helps to locate the program module within the system. (See attached appendix B)

The researchers used reference materials such as books, magazines, published thesis – both Local and foreign to give a general idea in developing the hotel management system. The research conducted has also involved the gathering of valuable information from several books, articles and publications.

This research is a reflective thinking in a situation of aesthetic values. This method is used to help the researchers in utilizing their creativity in design and development.

During a research process, data's should be collected, organized, classified and analyzed to help the researchers in the development process and enhance the system development

3.3 Program Flowchart:

It is a graphical representation of the sequence of operations in an information system or program. Information system flowcharts show how data flows from source documents through the computer to final distribution to users. (See attached appendix C)

3.4 IPO:

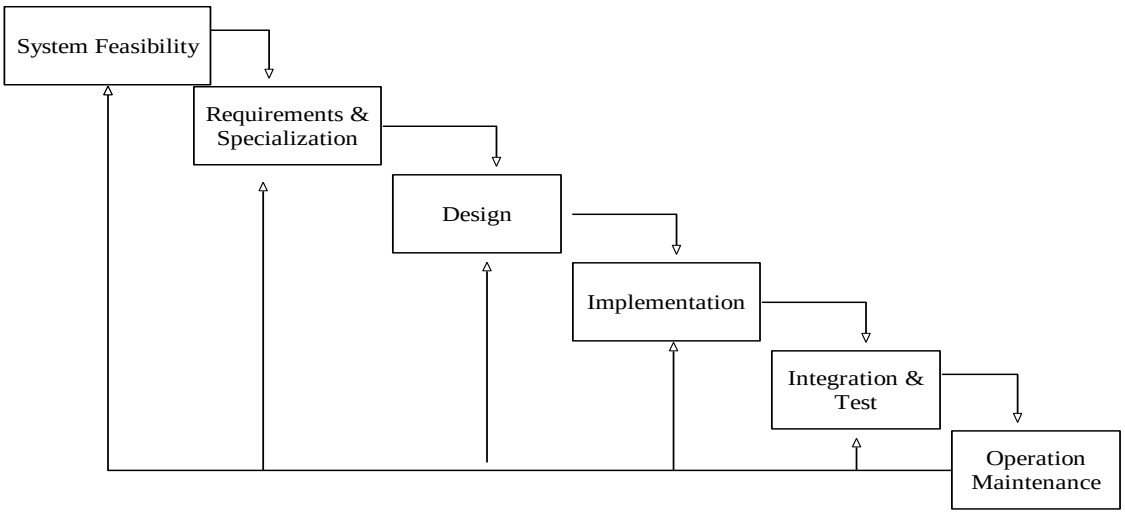
The input-process-output structural framework (see Figure 1.0) is a specification of how different input, intermediate, and output variables form causal relationships in a system. (See attached in chapter 2)

4.0 Methods used in Developing the Software

The recognition of the software crisis led to the birth of software engineering which, in turn, led to structured models for describing the-

-software life cycle in order to make the process predictable and controllable resulting in the production of a correct software system.

There are various methodologies available for software development. A Methodology is composed of a Software Development Model used in conjunction with one or more Software Development Techniques. The correct choice of methodology plays a crucial role for the delivery of reliable and correct software products. The models widely used in such software system is the "Waterfall Model"



(Figure 2)

The Waterfall Model

System Feasibility:

This system view is essential when software must interface with other system. It provides the software engineer with an indication of the role of software within the context of the system as a whole. The whole process must be well planned.

Requirements & Specifications:

Requirements specifications play a key role in the software development process. It is used to gather information needed to give an insight into the product, its functionality, its design and its implementation procedure. Requirements analysis starts by studying the system specification and the software project plan to understand software in the context system and ends with a requirements specification document.

System Design:

Once the requirements specification document is ready, the software developer has a clear description of what functions the software system must provide. The information in the requirements specification document is used to decompose the system into modules and describing what each module is intended to do and the relationship among the modules in other words, producing a description of the software architecture.

Implementation:

During the implementation, the software is coded and unit tested. All documentation is produced in quasi-final form, including internal code documentation. Code verification should check for technical accuracy and completeness of the code, verify that it implements the planned design, and ensure good coding practices and standards are used.

Integration and Test:

During this phase the software units are integrated into a completed system; non-conformances are detected, documented, and corrected; and it is demonstrated that the system meets its requirements. The integration and test plan is executed, the software documentation is updated and completed, and the products are finalized for delivery.

Operation Maintenance:

During this phase, the software is used to achieve the objectives for which it was developed and acquired. Corrections and modifications are made to the software to sustain its operational capabilities and to upgrade its capacity to support its users. Software changes may range in scope from simple corrective action up to major modifications that require a full life cycle process.

5.0 Justification of method used

As the researchers tried to analysis the system working, we also have to understand the data analysis process, as it is the process of looking at and summarizing data with the intent to extract useful information and develop conclusions. Data analysis is closely related to data mining, but data mining tends to focus on larger data sets, with less emphasis on making inference, and often uses data that was originally collected for a different purpose.

6.0 Software Validation

An idea for software improvement is expressed and formed usually in one of the following ways: A user has a need for some feature or improvement, and makes a specific request. A user or prospective customer raises an issue and expresses its importance. Individuals close to the development process recognize and identify improvement possibilities.

7.0 Methods used for Product Evaluation

Any product after development should undergo evaluation in terms of its performance and feasibility. The software product should be technically, operationally and economically feasible for implementation.

7.1 Technical Feasibility:

The objective of the technical feasibility step is to confirm that the product will perform and to verify that there are no production barriers. The technical feasibility step generates knowledge about the product or process's design, performance, production requirements, and preliminary production costs. (Hardware & software resources in chapter 4)Only hardware and software which is compatible and which interfaces with existing computer system should be included in a feasibility study; because only equipment which is compatible is feasible.

7.2 Operational Feasibility:

Here the researchers evaluate the effects of each alternative on the routine operations of the organization. Management has to be heavily involved in this area of the feasibility study because management understands the operations of the organization.

The data gathered from the evaluation form helps the researchers to establish the operational feasibility of the proposed system, due to the designed systems reliability, accuracy and efficiency. The proposed system is feasible for the management to maintain this new website. (See appendix G)

COMPUTATION:

Frequency Mean (FM) = $\frac{\sum f (x_1 + x_2 + \ldots x_n)}{N}$

Where:

f = frequency or number of times that a given number (x) was chosen by the respondents as rating for a given criterion.

x = represents any of the numerical ratings 1,2,3,4,5 representing the evaluator's rating options for each given criterion.

n = refers to the sample size or the total number of respondents.

7.3 Economic Feasibility:

The researcher does most of the work in this area of the feasibility study. The development cost is part of the budgetary feasibility study. A development cost analysis must be undertaken for each alternative. However, many benefits cannot be assigned a direct monetary value and these intangible benefits must be considered.

This feasibility study is used to determine the financial aspects of the project, which was incurred during the design, planning and development of the software. Since this is a website, designed and developed by using Microsoft FrontPage.

The cost incurred for the development and design is very minimal. This company website development at the most requires only 2 web developers for developing and maintenance. This is the proposed system for an alternative hotel website, therefore the researchers have established the economic feasibility by conducting the t-test analysis and the software development cost. (See appendix H)

Formula used to determine the Economic Feasibility:

Computation for Development Cost:

Annual Depreciation cost = Hardware cost – Salvage value

Life Expectancy

Salvage value = [(Hardware cost / life expectancy) * development period]

12

Monthly depreciation cost = Annual depreciation cost

12

Hardware development cost = monthly depreciation cost * development period

Software development cost = monthly depreciation cost * development period

Annual Depreciation cost = Software cost – Salvage value

Life Expectancy

Salvage value = [(Software cost / life expectancy) * development period]

12

Labor cost = developer's fee x development period

Since this website provides only an alternative for the current website with minimal technology, the cost of developing this site is not very much significant. The website can only be treated as an expense, since no advertisements or other types of selling is done via the website where income can be generated. The website is aimed at providing better marketing tool for the hotel.

CHAPTER IV

THE DESIGN PHASE

1.0 The New System

The main purpose to develop this software is because of the outdated website of the hotel. Our Hotel website is the most complete, cost-effective, yet powerful, flexible, easy to use and affordable hotel management solution in the marketplace.

2.0 The Need to Develop the Proposed System

The proposed system will be a robust website for the hotel, where they can have the guests apply online for their reservation. As being one of the most growing industries in Kingdom of Bahrain, we would like to develop a prototype of the Hotel website in which we would apply most of their basic features in the hotel industry.

The software system is developed for Ramee International Hotel in the Kingdom of Bahrain.

3.0 The Objectives of the Proposed System

This project aims to focus upon several functional objectives with the completion of this project it is hoped to fulfill:

Create independent modules to allow for customer needs.

Build a complete system to client's needs in the world of hotels business.

Test, evaluate and deliver a functional application to the organization.

4.0 The Prospective Users / Beneficiaries

The proposed system for Ramee International Hotel, Bahrain is designed in such a way that can cater to the needs of any type of hotel. The website is designed and developed for the hotel guests who can do online reservation.

5.0 The Components of the Proposed System / Software

The components of the proposed system are divided into three sections: General function, system function and system input and output.

General Features. The feature integrated into the system is that it will be user-friendly and menu-driven system. The system will be user-friendly in terms of contents, design and navigation process.

The website will be created for Ramee Hotel, Bahrain. It's a complete new development using HTML, Microsoft FrontPage and Access 2003 to design and develop the website along with a database.

System functions. The website will have the following functions

Home page – the main homepage of the website with links to the subsequent pages

About us page – the hotel history and information

Facilities – various services offered by the hotel

Reservation form – online form for booking room

Contact us page – contact details of the hotel

6.0 System / Software Development

6.1 System requirements:

Reliable hardware and software tools are used to carry out the execution of the proposed system without any errors or bugs.

Hardware Specifications

Table 1.0

HARDWARE	MINIMUM	RECOMMENDED
RAM	at least 64 MB	128 MB SD RAM
Computer	Pentium II or higher	Pentium IV
Video Card	any compatible video card at least 32 MB	32 MB Video Card
Hard disk	5 GB	10 GB
Monitor	Colored Monitor	Colored Monitor
CD-ROM Drive	CD-ROM Drive 30X or faster	DVD ROM drive
Keyboard	any type of keyboard	DTS Keyboard
Mouse	any type of mouse	Logitech Mouse

Software Specifications

Table 2.0

SOFTWARE	MINIMUM	RECOMMENDED
Operating System	Microsoft Windows 98 or higher	Windows XP
Programming language	HTML	HTML
Design & Development	Microsoft FrontPage 2002	Microsoft FrontPage 2005
Database	Microsoft access	Oracle
Image designing	Adobe Photoshop 2002	Microsoft PhotoDraw 2000

6.2 Design

Design patterns are recurring solutions to software design problems, the researcher's find again and again in real-world application development. Patterns are about design and interaction of objects, as well as providing a communication platform concerning elegant, reusable solutions to commonly encountered programming challenges.

The proposed system is designed using simple website technology and navigation process in order to the site to be very user-friendly in terms of appearance, uploading and contents.

6.3 Programming

The programming language used for developing the website was HTML (also known as hyper text markup language), Microsoft FrontPage and Access 2003. The FrontPage was used mainly for the design and development of the software. FrontPage is one of the most reliable and easiest ways to programme and develop a website.

6.4 Implementation of the Proposed System

Once the software is designed, developed and tested, the proposed system will be ready for going online. Before the system goes online, the developers should maintain and update the system, include the website address on the famous search engines by using primary keywords and respond to the technical questions during the website briefing and launch. A domain name must be purchased and server space should be allocated by the hosting company.

Once the site is uploaded on the Internet, a webmaster must be hired to administer the website and to answer any technical questions on the sites reliability or functionality.

The webmaster will also be responsible for the updating the contents of the page and refreshing & checking the site every once a month for errors, bugs or virus.

6.5 Testing

Tact and diplomacy are useful in maintaining a cooperative relationship with developers, and an ability to communicate with both technical (developers) and non-technical (customers, management) people is useful. Previous software development experience can be helpful as it provides a deeper understanding of the software development process, gives the tester an appreciation for the developers' point of view, and reduce the learning curve in automated test tool programming.

6.6 Evaluation of the System / Software product

The evaluation of the proposed system for the company website was a process that had consisted of various data gathering through the methods of questionnaire and evaluation forms. Three feasibility tests were conducted, which was the integral part of the research.

Technical Feasibility

The software developed is technically feasible in terms of error free and reliability.

The hardware and the software tools utilized were able to meet the requirements. Based on the hardware and software tools, as mentioned earlier in the *specification* section, the design and development of the site was implemented successfully.

7.0 Operational Feasibility

By using the evaluation form, the researchers were able to determine the accuracy, efficiency, reliability, and conciseness and user friendliness of the designed system. Based on the results from the evaluation form, proved that the proposed / designed system is better and will be widely received. Although the website is an expense rather then finances generating, the designed website's operational feasibility could still be established through an assessment of the responses given to the evaluation form. This evaluation form was distributed to the staff of the company. (See appendix G)

COMPUTATION:

Frequency Mean (FM) = $\frac{\sum f (x_1 + x_2 + \ldots x_n)}{N}$

Where:

f = frequency or number of times that a given number (x) was chosen by the respondents as rating for a given criterion.

x = represents any of the numerical ratings 1,2,3,4,5 representing the evaluator's rating options for each given criterion.

n = refers to the sample size or the total number of respondents.

8.0 Economic Feasibility

Using only two web designers and developers the proposed system was made possible in a short period of time. The total development cost, which included the hardware cost, labor cost, overhead costs and other resources has been estimated to just BD 3,984.272. (See appendix H)

Formula used to determine the Economic Feasibility:

Computation for Development Cost:

$$\text{Annual Depreciation cost} = \frac{\text{Hardware cost} - \text{Salvage value}}{\text{Life Expectancy}}$$

$$\text{Salvage value} = \frac{[(\text{Hardware cost} / \text{life expectancy}) * \text{development period}]}{12}$$

$$\text{Monthly depreciation cost} = \frac{\text{Annual depreciation cost}}{12}$$

Hardware development cost = monthly depreciation cost * development period

Software development cost = monthly depreciation cost * development period

$$\text{Annual Depreciation cost} = \frac{\text{Software cost} - \text{Salvage value}}{\text{Life Expectancy}}$$

$$\text{Salvage value} = \frac{[(\text{Software cost} / \text{life expectancy}) * \text{development period}]}{12}$$

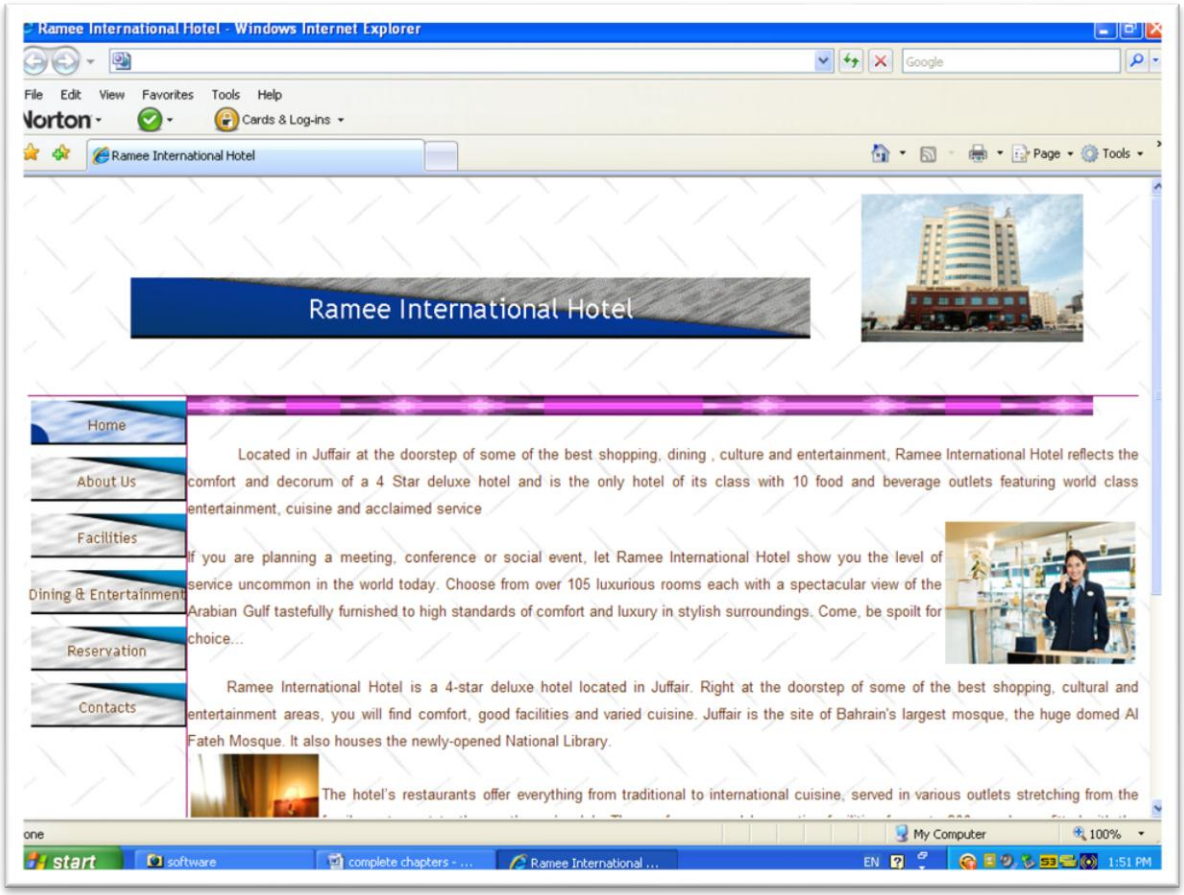
Labor cost = developer's fee x development period

CHAPTER V

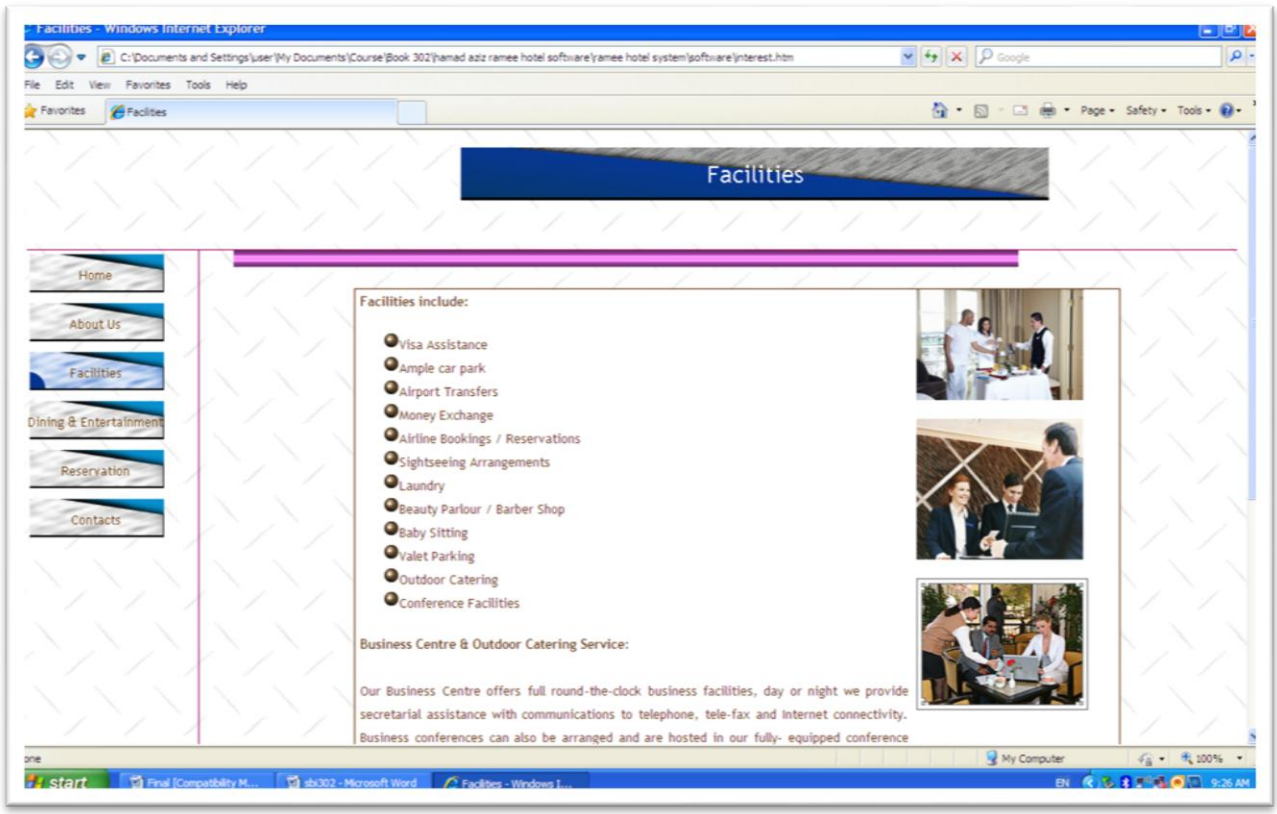
IMPLEMENTATION PHASE

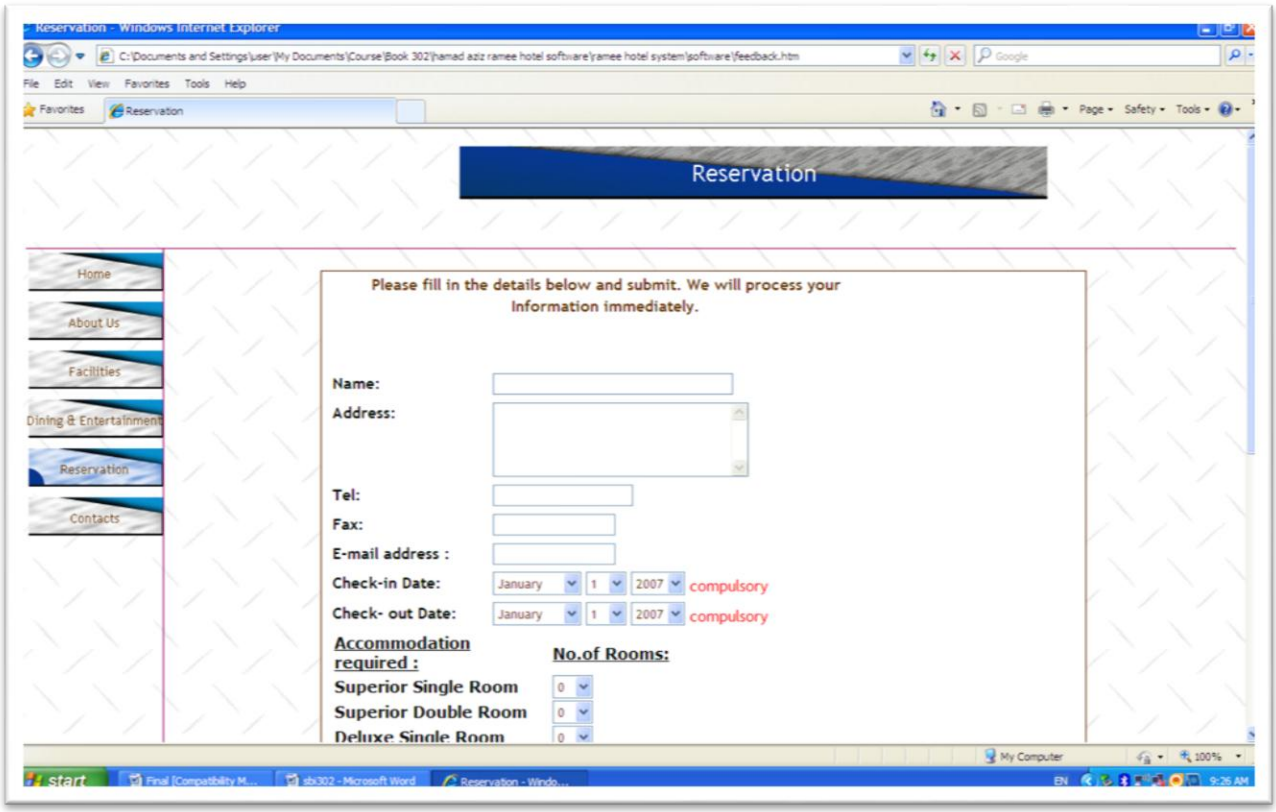
1.0 Main page

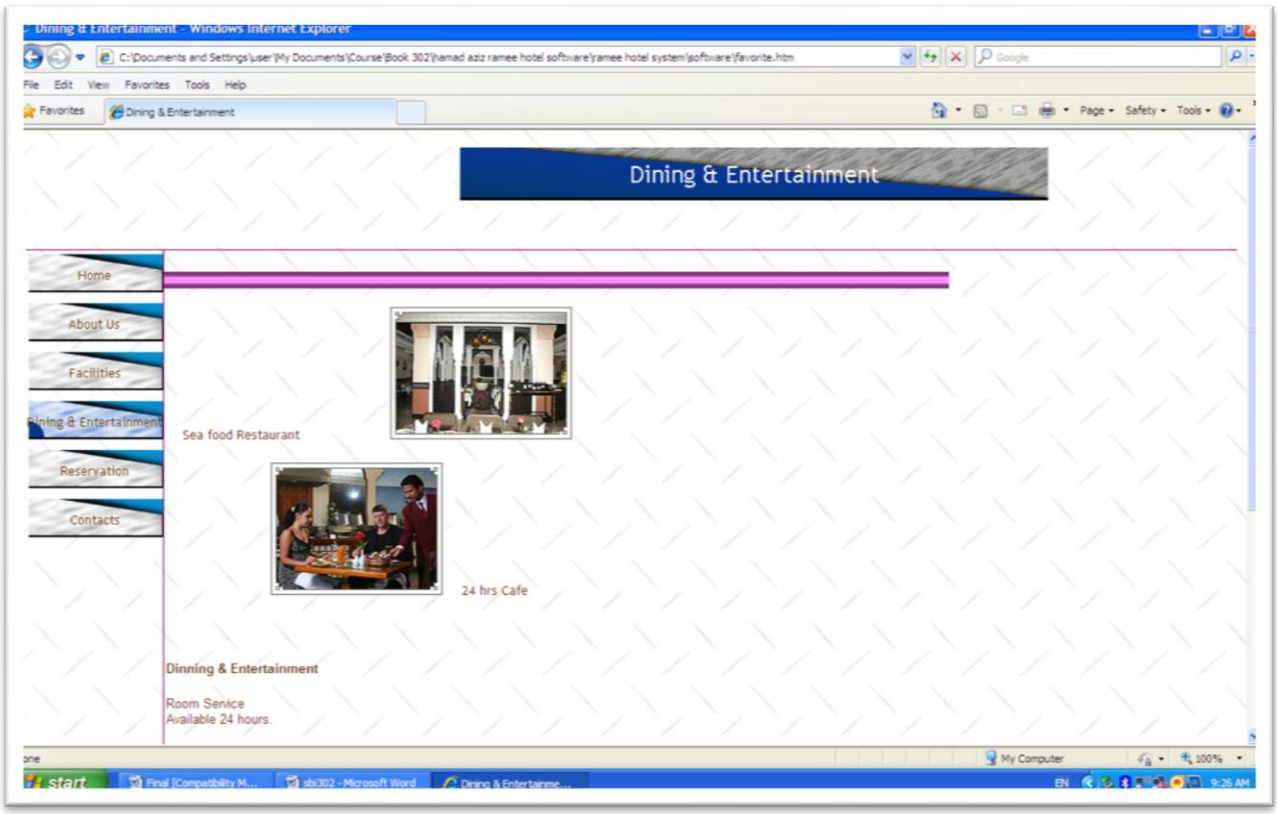
The home page of the website. The page also has links to other sites.

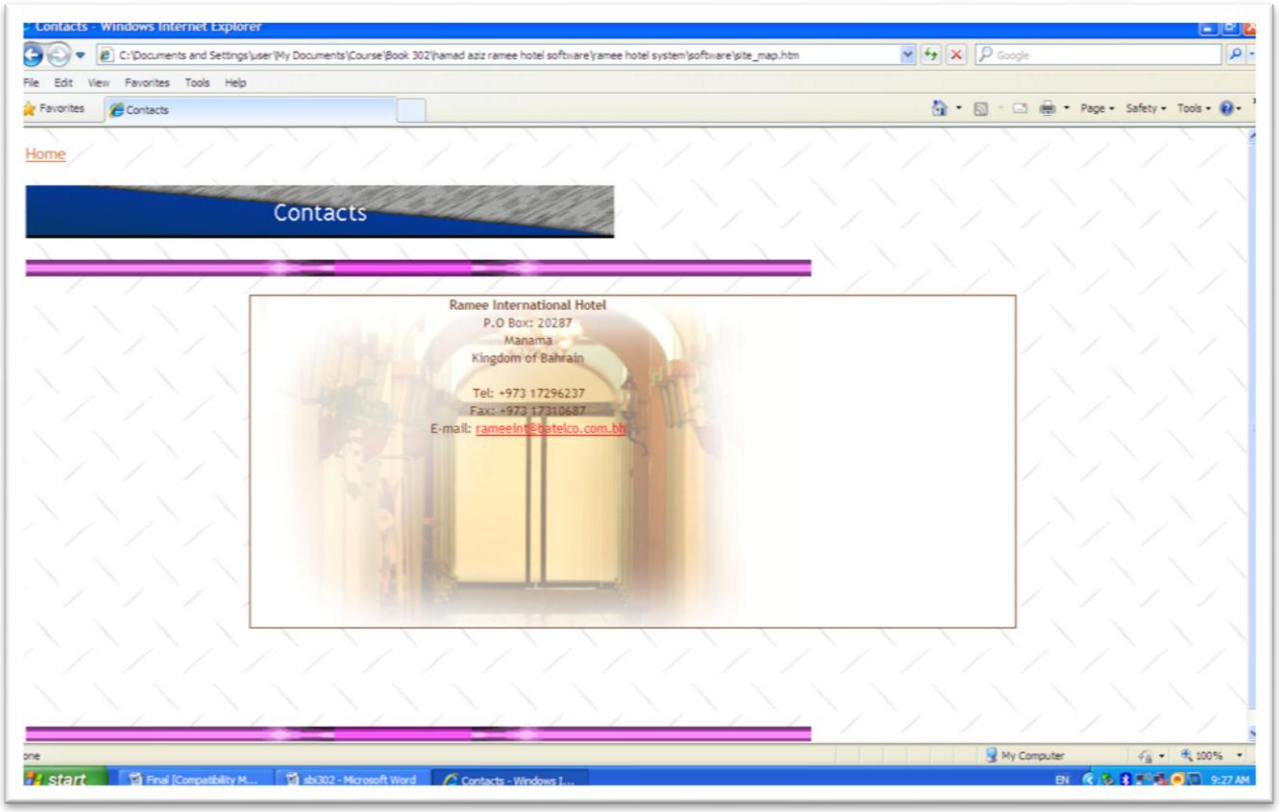

Ramee International Hotel - Windows Internet Explorer
File Edit View Favorites Tools Help
Ramee International Hotel
Ramee International Hotel
Home
About Us
Facilities
Dining & Entertainment
Reservation
Contacts
Located in Juffair at the doorstep of some of the best shopping, dining , culture and entertainment, Ramee International Hotel reflects the comfort and decorum of a 4 Star deluxe hotel and is the only hotel of its class with 10 food and beverage outlets featuring world class entertainment, cuisine and acclaimed service
If you are planning a meeting, conference or social event, let Ramee International Hotel show you the level of service uncommon in the world today. Choose from over 105 luxurious rooms each with a spectacular view of the Arabian Gulf tastefully furnished to high standards of comfort and luxury in stylish surroundings. Come, be spoilt for choice...
Ramee International Hotel is a 4-star deluxe hotel located in Juffair. Right at the doorstep of some of the best shopping, cultural and entertainment areas, you will find comfort, good facilities and varied cuisine. Juffair is the site of Bahrain's largest mosque, the huge domed Al Fateh Mosque. It also houses the newly-opened National Library.
The hotel's restaurants offer everything from traditional to international cuisine, served in various outlets stretching from the
start

About Us - Windows Internet Explorer
About Us
Home
About Us
Facilities
Dining & Entertainment
Reservation
Contacts
Under the direct leadership of Raj Shetty, the group grew from strength to strength in the mid segment hotel market with Food and Beverage outlets. His passion for offering good dinir service at good value for money earned him a great success in this field. Some of his signature created outlets like Rock Bottom Café, Far East Sea Food Market, and Bollywood Café are various hotels.
The story of Ramee is the story of one man's dream with his team, his spontaneous creativity. His willingness to make decisions and courage to take daring steps. His Driving force has been innovations With an appetite to create some thing unique... some thing tangible... the traits of a true entrepreneur. For him the game of life has meant betting on himself, winning, attracting new opportunities and Creating good luck and good fortune not only for himself but also for thousands of people working with him and their families.
The company's long term goal is achieve 200 hotels by 2015.Many hotels are already in the final stages to take them on.
Home | About Us | Facilities | Dining & Entertainment | Reservation | Contacts
This site was last updated 10/21/09


Facilities - Windows Internet Explorer
Facilities
Home
About Us
Facilities
Dining & Entertainment
Reservation
Contacts
Facilities include:
Visa Assistance
Ample car park
Airport Transfers
Money Exchange
Airline Bookings / Reservations
Sightseeing Arrangements
Laundry
Beauty Parlour / Barber Shop
Baby Sitting
Valet Parking
Outdoor Catering
Conference Facilities
Business Centre & Outdoor Catering Service:
Our Business Centre offers full round-the-clock business facilities, day or night we provide secretarial assistance with communications to telephone, tele-fax and internet connectivity. Business conferences can also be arranged and are hosted in our fully- equipped conference


Reservation - Windows Internet Explorer
Reservation
Home
About Us
Facilities
Dining & Entertainment
Reservation
Contacts
Please fill in the details below and submit. We will process your Information immediately.
Name:
Address:
Tel:
Fax:
E-mail address :
Check-in Date:
Check- out Date:
compulsory
Accommodation required :
No.of Rooms:
Superior Single Room
Superior Double Room
Deluxe Single Room


Dining & Entertainment - Windows Internet Explorer
Dining & Entertainment
Home
About Us
Facilities
Reservation
Contacts
Sea food Restaurant
24 hrs Cafe
Dinning & Entertainment
Room Service
Available 24 hours



2.0 Informal Interview.

We have conducted informal interviews with the hotel staff, hotel guests and management. From the interview we were able to analyse that the staff and guests were not happy with the existing system, as they were not able to book rooms online. The staff also said that the hotel currently has a website where all its features do not work properly. The links are not functional 100%. The website is outdated in terms of design and content. (See appendix D).

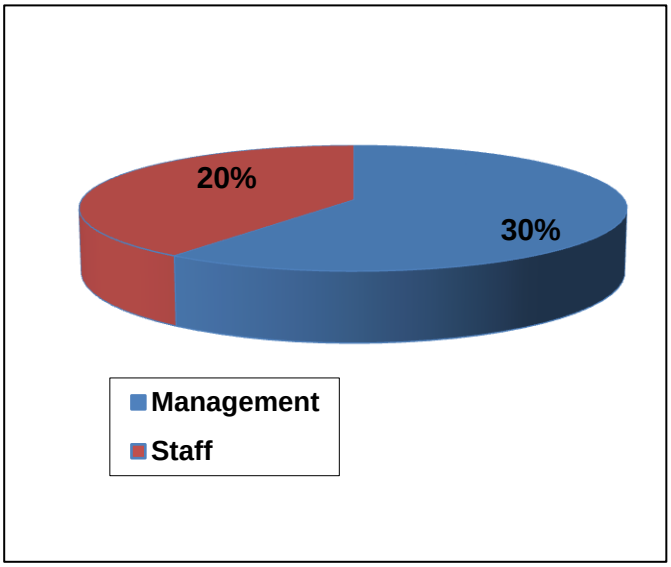
3.0 Customer questionnaire results

From our evaluation, we were able to analyze to what level the existing website in the hotel has created problems to the management and the staff. Therefore after our evaluation we had decided to make an online system for the company so that they process their daily reservation activities and guests more easily

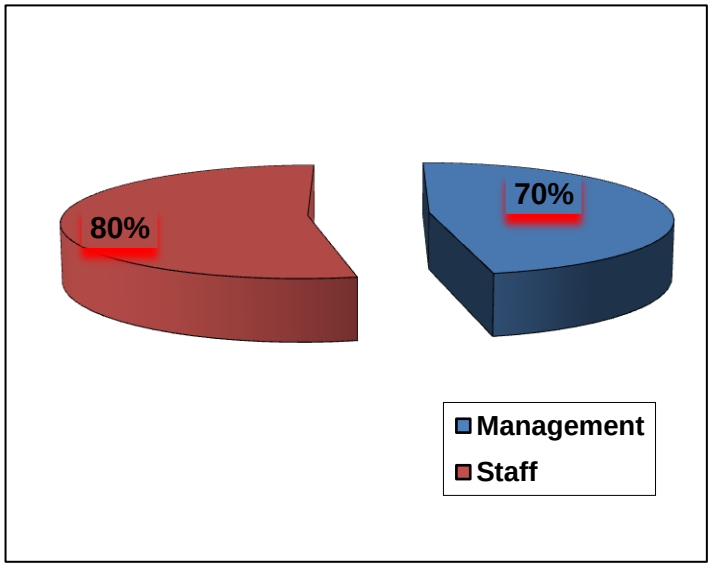
We have submitted this survey questions to around 20 people in the management and the staff. This 20 people were divided into 2 groups, considering 10 people from management and 10 from staff (See appendix E).

For the 1st question, we had asked this question because the hotel has many computers and different Servers for its IT. It's not a centralized IT department. However almost all use the same server, except a few. Most of them use Windows server 2000, due to its strong technology and reliability compared to other servers, such 2003 and 2008

1st question	Management	Staff
Windows server 2008	30%	20%
Windows server 2003	-	-
Windows server 2000	70%	80%
Linux	-	-
Solaris	-	-
Mac OS server	-	-



For Windows 2008

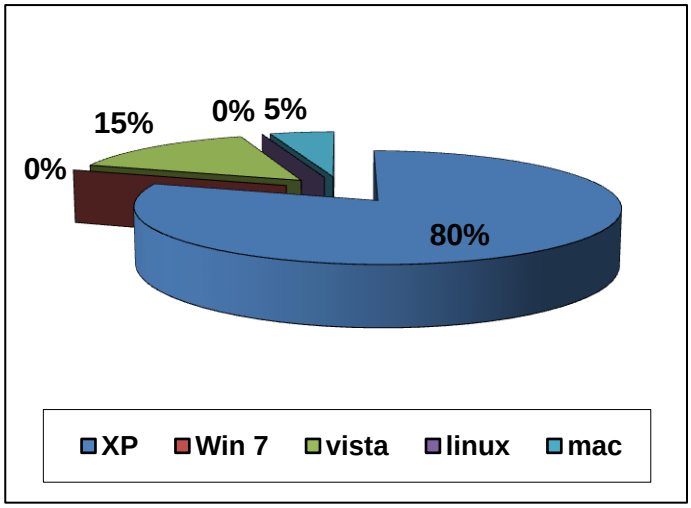


For Windows 2000

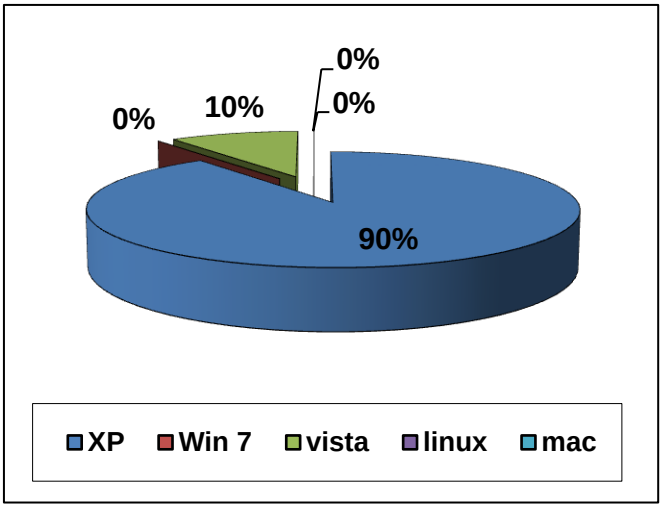
For the 2nd question, there was nearly 50-50 mix up in the usage of operating system, with each group having either windows XP or Macintosh. With only approx 5% used Linux or other operating system

management

2nd question	Management	Staff
Windows XP	80%	90%
Windows 7	-	-
Windows Vista	15%	10%
Linux	5%	-
Macintosh	-	-



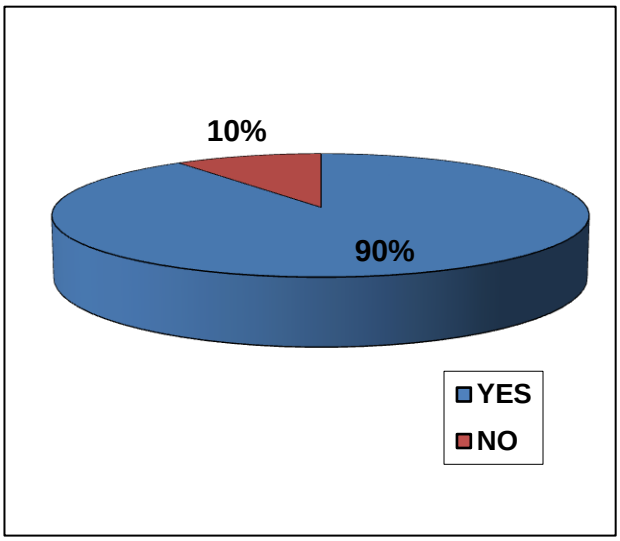
Management



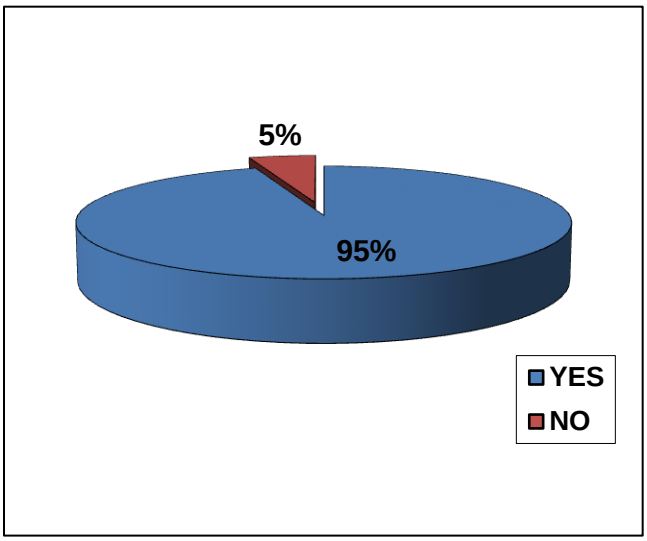
Staff

For the 3rd question, the management & staff had kept 90% written back up procedures, as it's the hotel policy with only 10% individuals had kept any physical back ups

3rd question	Staff	Management
Yes	95%	90%
No	5%	10%



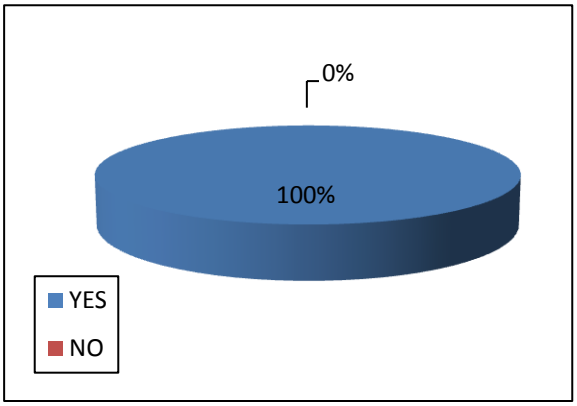
Management



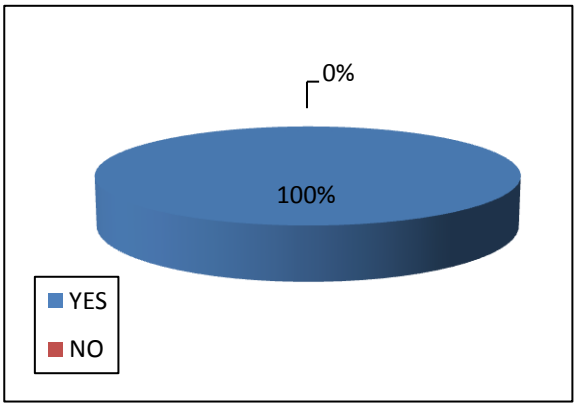
Staff

For the 4th question, all division/department have a software use policy for users

4TH question	MNGMT	STAFF
Yes	100%	100%
No		



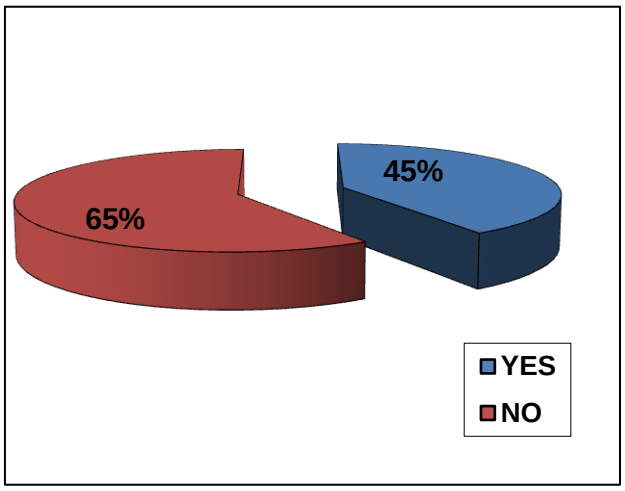
Management



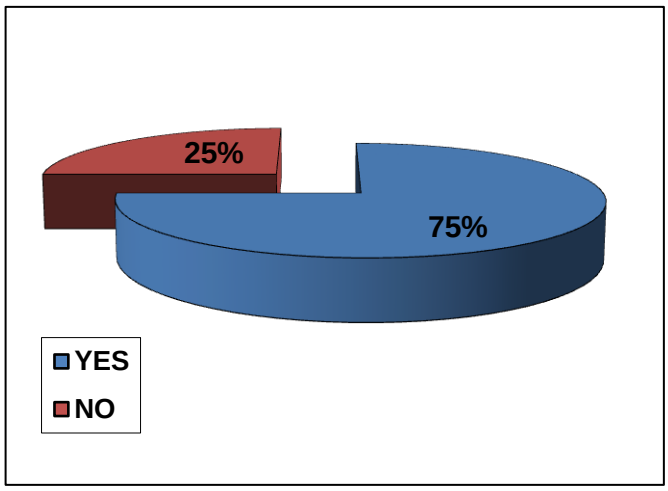
Staff

For the 5th question, 75% of the staff said that the existing system was not good and 45% management also said it was not good and not convenient to customers. But 65% of management disagreed and said that it was ok

5TH question	management	staff
Yes	45%	75%
No	65%	25%



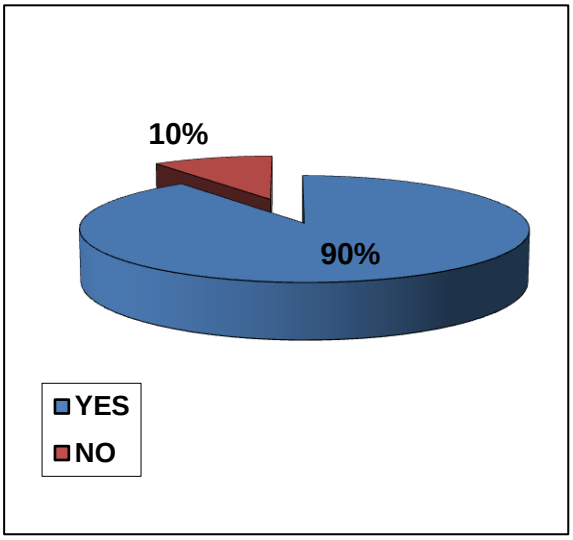
Management



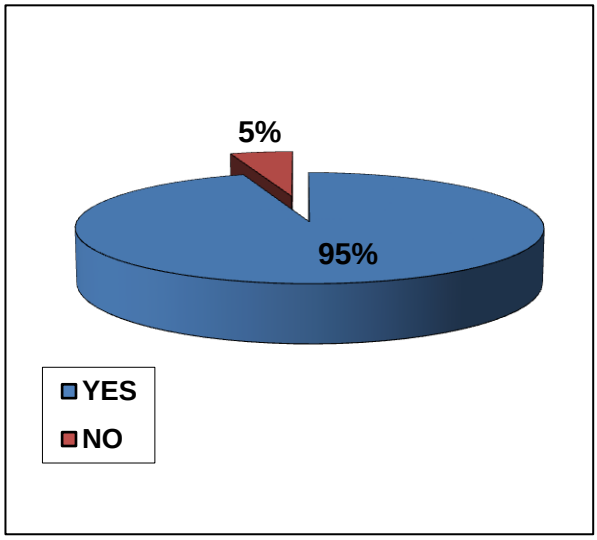
Staff

For the 6th question, the staff and management said that the hotel uses IT for customer information checking

6TH question	management	staff
Yes	95%	90%
No	5%	10%



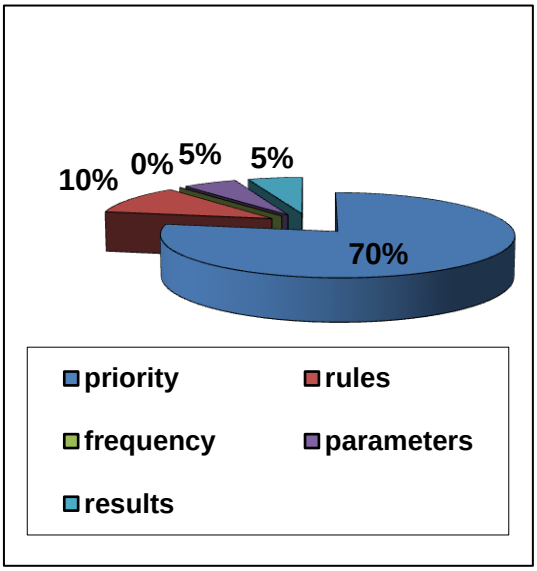
Management



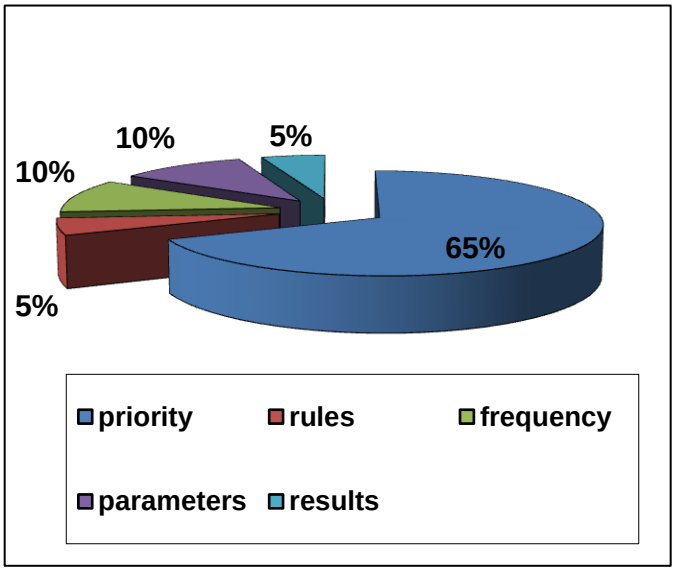
Staff

For the 7th question, different persons followed different steps and didn't follow all the procedures

7th question	Management	staff
Establishing priority areas	70%	65%
Identifying monitoring and continuous rules	10%	5%
Determining the process' frequency	0%	10%
Configuring continuous IT parameters	5%	10%
Communicating results	5%	5%
All the above	10%	5%



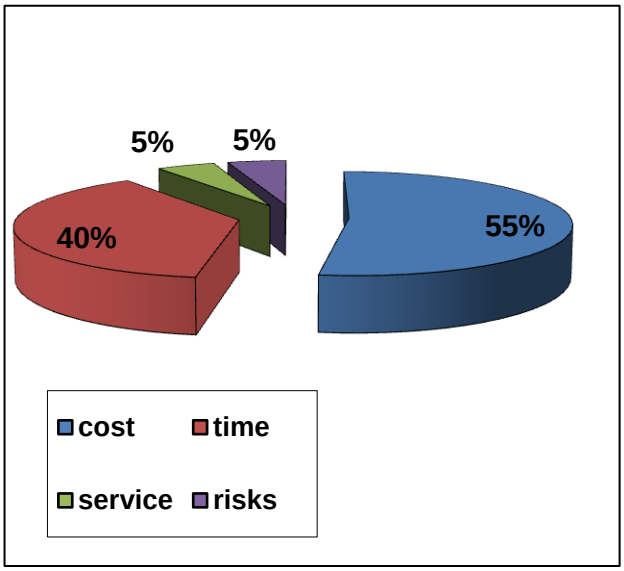
Management



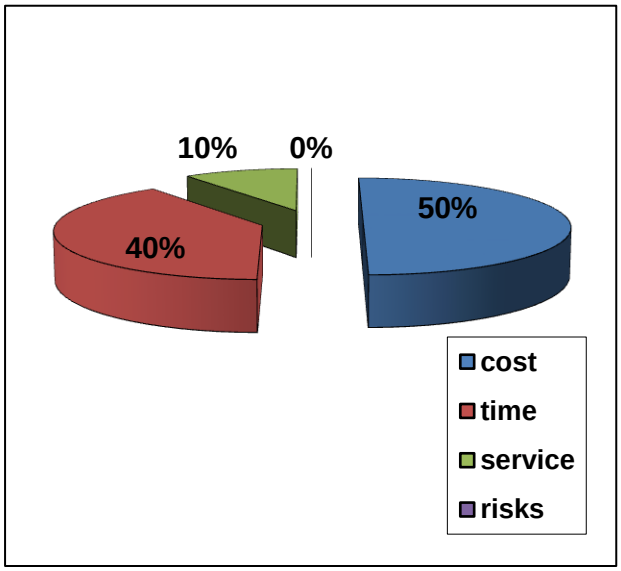
Staff

For the 8th question, almost 95% said it that it saves cost and reduces time

8th question	Management	Staff
Save cost	55%	50%
Reduce time	40%	40%
Faster service	5%	10%
Identify risks		



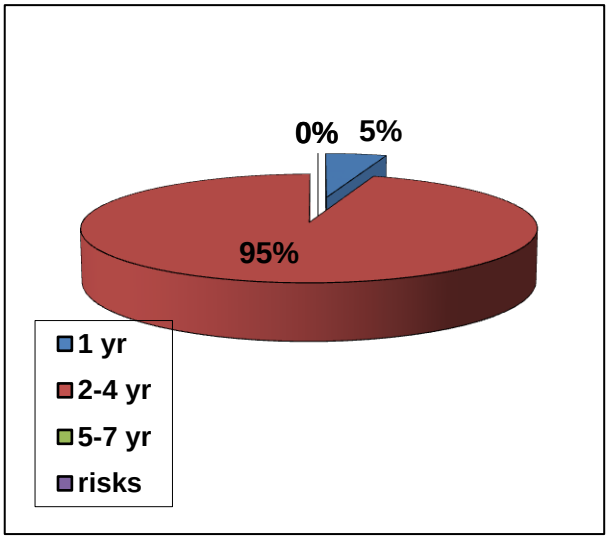
Management



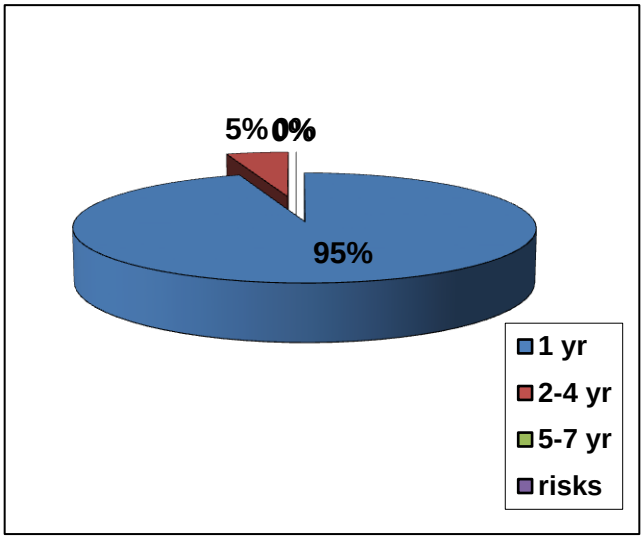
Staff

For the 9th question, the hotel have used IT only recently with management using for the past 2-4 years and staff for past 1 year

9th question	Mngmt	Staff
Less than 1 year	5%	95%
Less than 2 - 4 years	95%	5%
Less than 5 - 7 years		



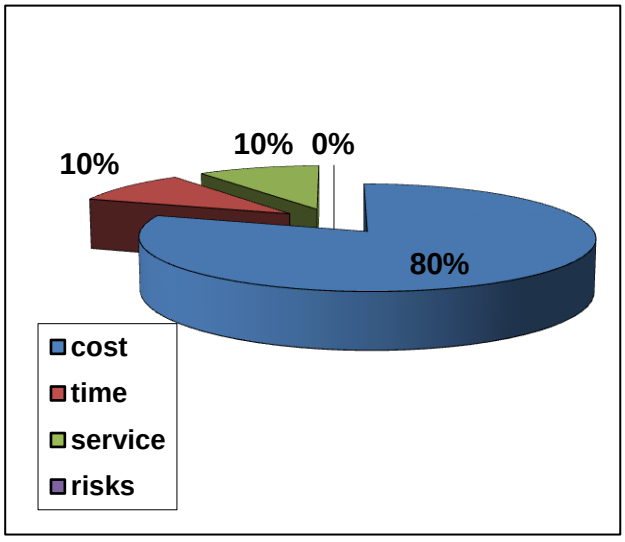
Management



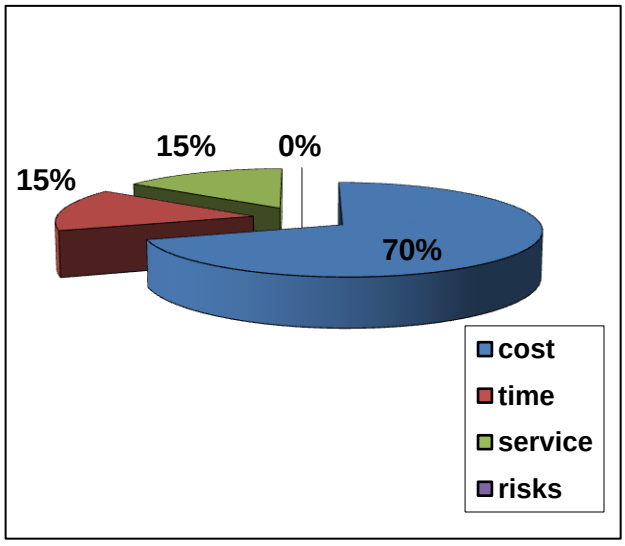
Staff

For the 10th question, benefits to the hotel is that it saves cost and reduces time

10th question	Management	Staff
Save cost	80%	70%
Reduce time	10%	15%
Faster service	10%	15%
Identify risks		



Management



Staff

CHAPTER VI

TESTING PHASE

1.0 System testing

The objective of the technical feasibility step is to confirm that the product will perform and to verify that there are no production barriers. The technical feasibility step generates knowledge about the product or process's design, performance, production requirements, and preliminary production costs.

Only hardware and software which is compatible and which interfaces with existing computer system should be included in a feasibility study; because only equipment which is compatible is feasible.

Testing is always one of the most important phases of any project, for that this section discusses the main testing methods used to ensure the functionality and quality of the system.

The testing methods that have been used are:

- Unit Testing:
  - White-box testing
  - Black-box testing
- Integration Testing

1.1 White box Testing:

It is type of unit testing that uses the control structure of the procedural design to derive test cases. Using white-box testing methods allowed us to derive test cases that:

- Guarantee that all independent logical paths within a module to be exercised correctly.
- Exercise all logical decisions on their true and false sides.
- Execute all loops at their boundaries.
- Exercise internal data structure to assure their validity.

1.2 Black-box Testing:

Black-box testing focuses on the fundamental requirements of the software, it enabled us to derive sets of input conditions that will fully exercised all functional requirements for a program. It is not an alternative to white-box testing but a complementary approach that is likely to uncover a different class of errors than white-box testing.

Black box testing will help to find errors in the following categories:

- Incorrect or missing functions
- Interface errors
- Errors in data structures or external databases access.
- Performance errors
- Initialization and termination errors.

1.3 Integration Testing:

Integration testing is used to test the system modules after connected with each other to form the system as whole and subsystem that compose the system.

This is done by following certain path in the system that will be used be the system user and test it, which form set of modules that connected with each other to form one of the main functions of the system.

- Integration testing is used to find such the following errors:
- Incorrect or missing modules.
- Incorrect or missing link between modules.
- Incorrect or missing function since miss or bad modues or its sequence.
- Subsystem incompleteness and bad communication between them.

2.0 Software testing

T-Test: This is probably the most widely used statistical test of all time, and certainly the most widely known. It is simple, straightforward, easy to use, and adaptable to a broad range of situations. The t-test is used to measure the level of importance of the designed system from the existing system. The logic is that if the t-computed is greater than the t-tabulated, then there is a significant level of difference between the two systems. A t-test is any statistical hypothesis test in which the test statistic has a t-distribution if the null hypothesis is true.

If we have two data sets, each characterized by its mean, the standard deviation and the number of data points, we can use some kind of *t*-test to determine whether the means are distinct, provided that the underlying distributions can be assumed to be normal.

In the case of the designed system and the existing system, the t-test gives the probability that the difference between the two means is caused by chance. It is customary to say that if this probability is less than 0.05, that the difference is 'significant', the difference is not caused by chance. The t-test is basically not valid for testing the difference between two proportions. However, the t-test in proportions has been extensively studied, has been found to be robust, and is widely and successfully used in proportional data.

CHAPTER VII

SUMMARY, CONCLUSION AND RECOMMENDATION

1.0 Summary

Our software system “Online Booking System for Ramee hotel” is meant to be very simple and focused on the reservation process of the Ramee hotel. It doesn’t include any accounting program and nor any customer services system Software development process is a structure imposed on the development of a software product. Synonyms include software life cycle and software process. There are several models for such processes, each describing approaches to a variety of tasks or activities that take place during the process.

A growing body of software development organizations implements process methodologies. The international standard for describing the method of selecting, implementing and monitoring the life cycle for software is ISO 12207.

Security back-up is one of the most essential requirements for any developer. Once the software product is designed and developed, the best practice is to save the whole project on a local hard disk or CD ROMs. This practice can help the researcher with future restorations of the data or to update the proposed system. Once the management system goes live, it will be the responsibility of the webmaster to protect the site from any unauthorized access to the management system codes and to prevent from virus attacks.

2.0 Conclusion

Keeping a web server safe from intrusion is often called *Server Port Hardening*. Many technologies come into play when keeping information on the internet safe when it is transmitted from one location to another.

For instance Secure Socket Layer Encryption (SSL) Certificates are issued by certificate authorities to help prevent internet fraud. Many developers often employ different forms of encryption when transmitting and storing sensitive information. A basic understanding of information technology security concerns is often part of a web developers knowledge.

Recommendations to the shop beside the new system are:

Create credit card payment through Internet and deliveries, Open more branches in the country, More advertisements about the available services in many different ways such as magazines, bill boards, television and radio, As Strategic plan they look for the Globalization by making deals with International services to reach their goals, Special offers for the regular customer such as point's card, Evaluate the product level by satisfaction questionnaires.

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"working on the Arab Internet" Ms. Halah Fattah, 2000

Ramzi Nasser and Kamal Abouchedid "Problems and the Epistemology of Electronic publishing in the Arab World: The Case of Lebanon" 2002

Ms. Haleh Nazeri, Iran on "**Imagined Cyber Communities, Iranians and the Internet", 1996**

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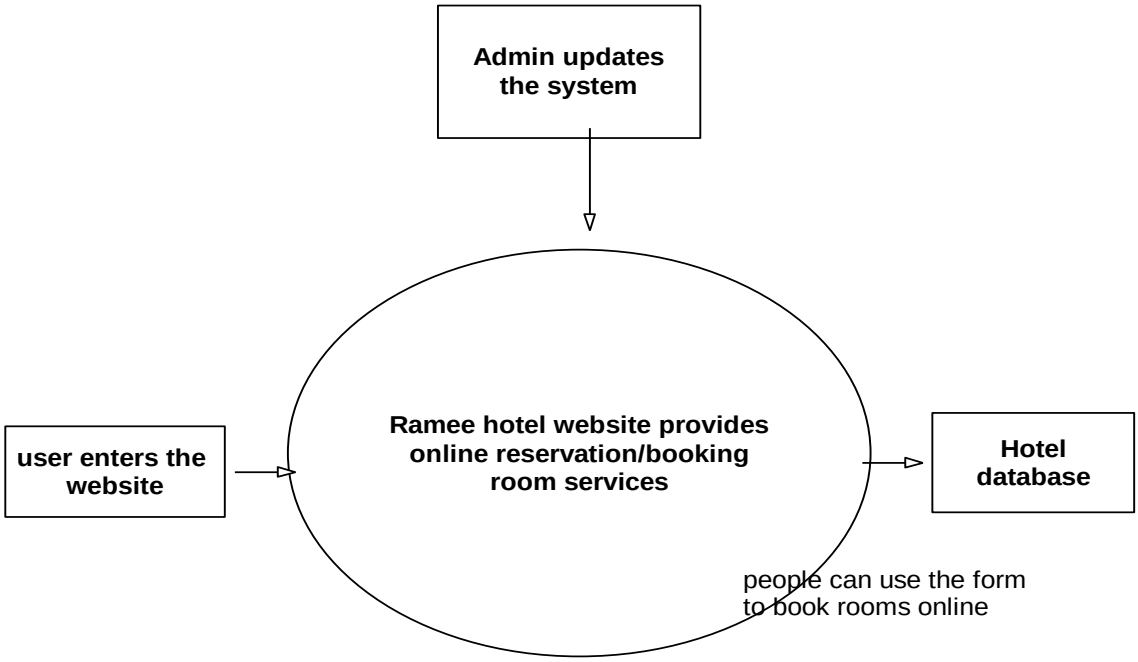
Mr. A Poon, in his book "**Caribbean Future", published in June 1993**

Mr. B. Prideaux, in his book "**Tourism and Hospitality Services Management: Theory and International Applications", published in December 2005**

Mr. E Laws, in his book "**Improving Tourism and Hospitality Services", published in October 2004**

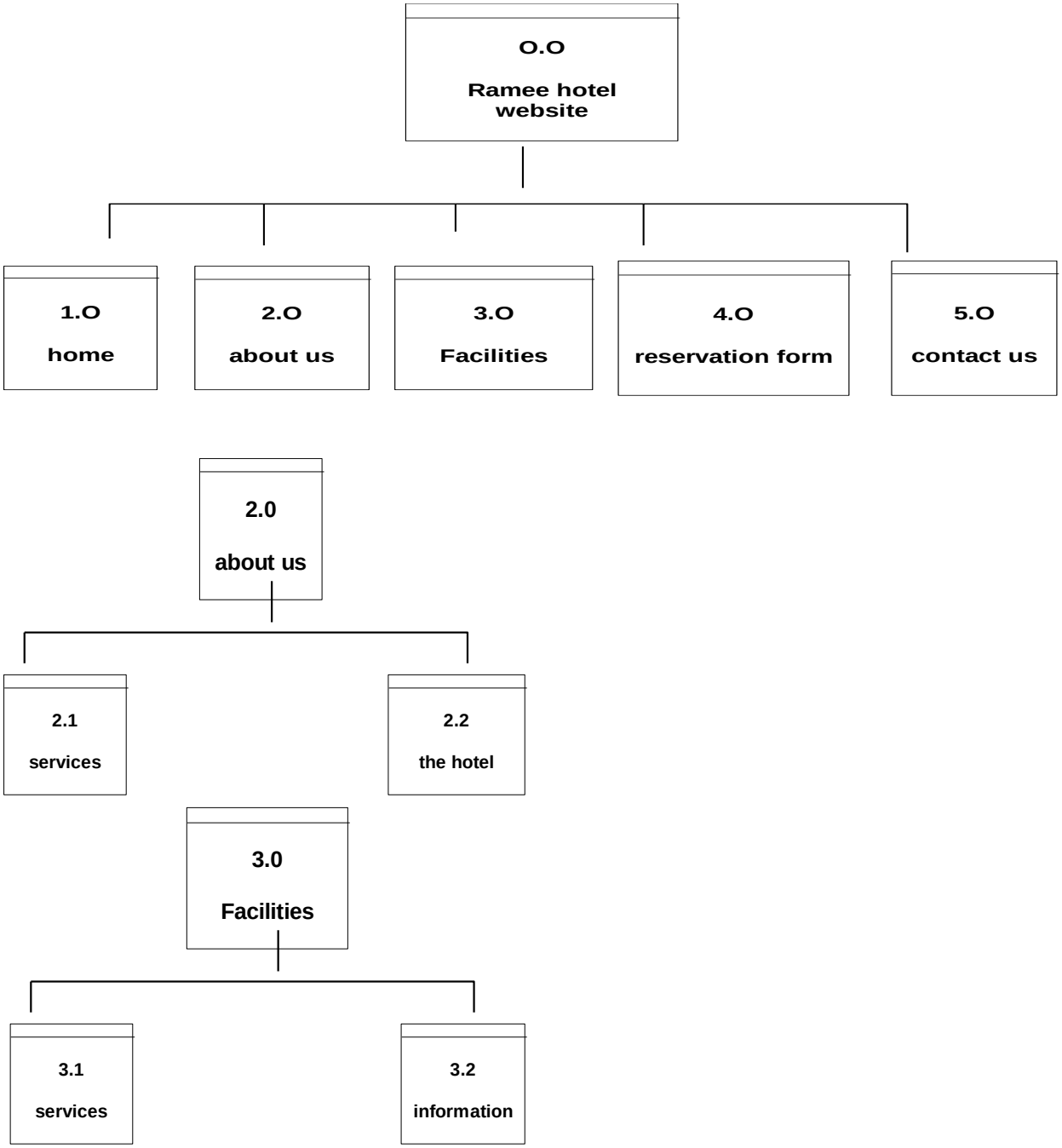
Appendix A

Data Flow Diagram

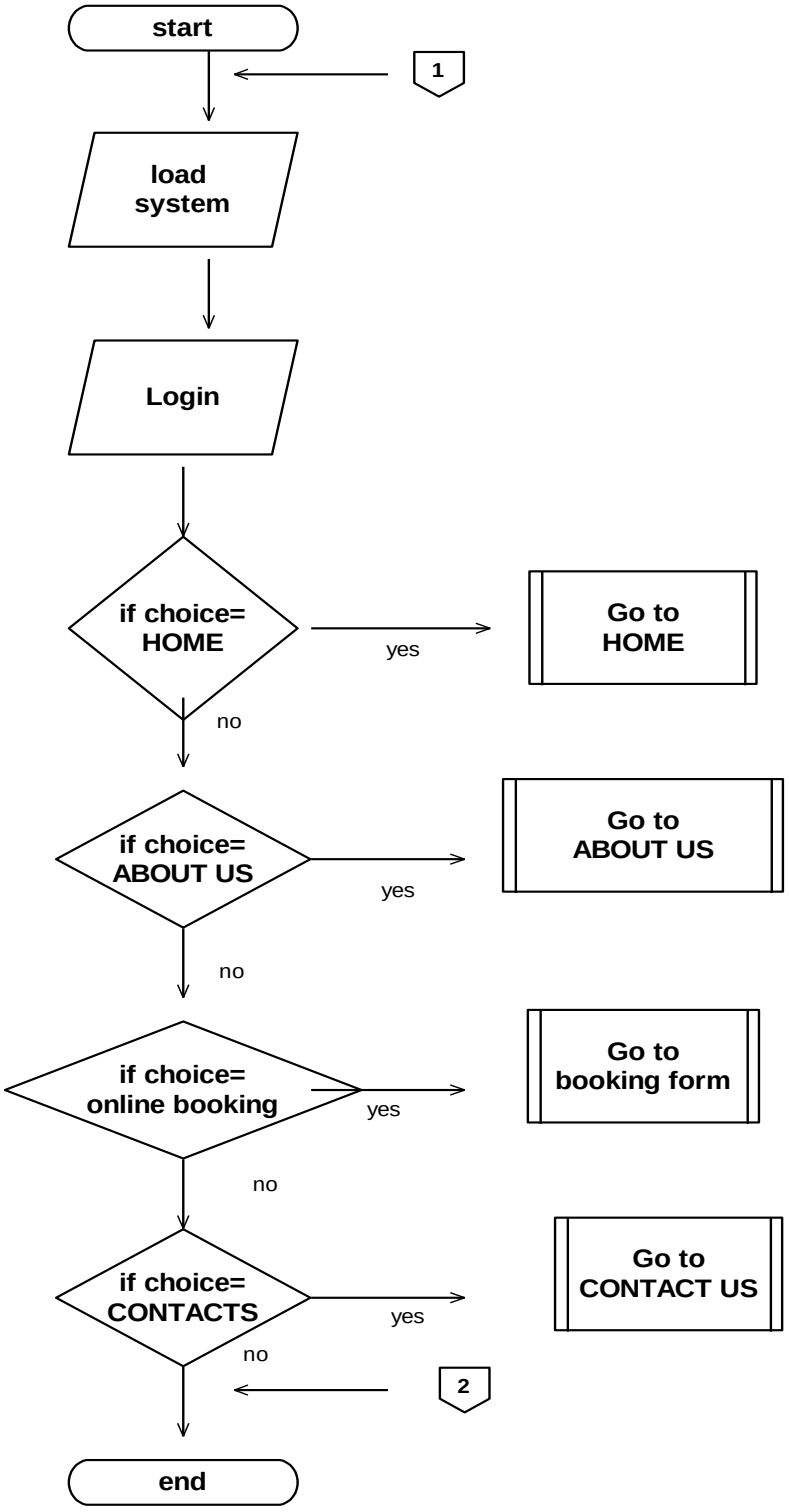

Admin updates the system
user enters the website
Ramee hotel website provides online reservation/booking room services
Hotel database
people can use the form to book rooms online

Appendix B

VTOC



Appendix C - Program flowchart



Appendix D

INTERVIEW GUIDE

- Preparing For The Interview
- Opening The Interview
- Continuing the Interview
- Types of Questions You May Wish to Ask
- Testing (If applicable)
- Legal Considerations
- Closing The Interview
- Evaluation and Selection

Appendix E

INTERVIEW QUESTIONNAIRE

Name of the Organization: Ramee International Hotel

C.R:_____

Please answer the following questions sincerely, to help us obtain the objective result:

What is the existing website of the hotel for guest reservation?

_____

_____

What are the major drawbacks of the existing website of the hotel?

_____

_____

What do users expect from an interactive website?

_____

_____

Will a robust website save time and be more efficient?

_____

_____

What type of website design and navigation capabilities expected?

_____

_____

How reliable is the current website?

_____

_____

Is flash technology a requirement for hotel website?

_____

Is the current website too flash and not enough information?

_____

9. What further requirements are needed to help the hotel website to be more technically advanced in terms of online presence?

_____

_____

10. Please give your comments / suggestions to improve the existing website:

_____

_____

APPENDIX F

SURVEY QUESTIONNAIRE

This questionnaire was originally developed to survey areas of concern, identified by the researchers

COMPLETED BY:

Name:

_____

__

Title:

_____

__

Date Completed: _____

Phone Number: _____ E-Mail:

_____

1. What network operating systems are running on your *administrative* server(s)?

Servers	Version, release, SP		
☐ Windows Server 2008	_____	_____	_____
☐ Windows Server 2003	_____	_____	_____
☐ Windows Server 2000	_____	_____	_____

☐ Linux _____ _____ _____

☐ Solaris _____ _____ _____

☐ MacOS X Server _____ _____ _____

2. What operating systems are running on your user *administrative* workstations?

Workstations	Version, release, SP		
☐ Windows 7	_____	_____	_____
☐ Windows Vista	_____	_____	_____
☐ Windows XP	_____	_____	_____
☐ Linux	_____	_____	_____
☐ Apple/Macintosh	_____	_____	_____

3. Do you have written backup procedures?

☐ Yes ☐ No

4. A software use policy is one in which the users are informed that they are only to use authorized software installed on their workstation. This policy includes a statement on what to do if the user has software (demos, trial versions, freeware, shareware, etc.) that they want to use on their workstation. Does your division/department have a software use policy for users?

☐ Yes ☐ No

5. Is the existing system implemented currently at the hotel convenient to customers?

☐ Yes ☐ No

6. Does your department use IT for checking customer information?

☐ Yes ☐ No

7: What are the procedures / steps used for using IT for customer information?

Establishing priority areas. []

Identifying monitoring and continuous rules. []

Determining the process' frequency. []

Configuring continuous IT parameters. []

Communicating results []

All the above []

8: How does IT benefit internally?

Saves cost []

Reduces time []

Faster service to the management []

Methodology to identify those risks []

9: How long has the company been using its current online system?

Less then 1 year []

Less then 2 - 4 years []

Less then 5 – 7 years []

10: Why does the hotel require a new online booking system? What's the benefit?

Saves cost []

Reduces time []

Faster service to the management []

Methodology to identify those risks []

APPENDIX G

Evaluation Form

Name:

Organization: Ramee Hotel Date: _____

Instructions:

Please answer the following questions sincerely by rating from 1 to 5, with 5 being the highest rating.

Read each characteristic and tick the box that corresponds to your answer

The following factors shall be used to determine the quality of the existing and the designed system:

User-friendliness: The users can easily use, navigate and understand the system

Efficiency: The ability of the system to produce the desired result in minimum time and effort

Accuracy: The system ability to perform correct and precise results

Reliability: The ability of the system to be dependable on data accuracy, efficiency and correctness.

Conciseness: The ability of the system to provide more information in brief words

Error-free: Is the system error free in terms of content, navigation process, etc

	Designed System						*Existing system*				
Criteria	*1*	*2*	*3*	*4*	*5*		*1*	*2*	*3*	*4*	*5*
User-Friendliness											
Efficiency											
Accuracy											
Reliability											
Conciseness *Error-free*											

Ratings: 5 – Excellent 4 – Very good 3 – Good 2 – Fair 1 – Poor

Comments / Suggestions:

_____

Signature

APPENDIX H

Encoding of program

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<font face="Arial, Helvetica" size="2">          
</font><font size="2" face="Arial">Located in Juffair at the doorstep of
some of the best shopping, dining , culture and entertainment, Ramee
International Hotel reflects the comfort and decorum of a 4 Star deluxe
hotel and is the only hotel of its class with 10 food and beverage outlets
featuring world class entertainment, cuisine and acclaimed service
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```

you are planning a meeting, conference or social event, let Ramee International Hotel show you the level of service uncommon in the world today. Choose from over 105 luxurious rooms each with a spectacular view of the Arabian Gulf tastefully furnished to high standards of comfort and luxury in stylish surroundings. Come, be spoilt for choice...

Ramee International Hotel is a 4-star deluxe hotel located in Juffair. Right at the doorstep of some of the best shopping, cultural and entertainment areas, you will find comfort, good facilities and varied cuisine. Juffair is the site of Bahrain's largest mosque, the huge domed Al Fateh Mosque. It also houses the newly-opened National Library.

<img border="0" src="C0033027.jpg" width="113" height="170" align="left">

The hotel’s restaurants offer everything from traditional to international cuisine, served in various outlets stretching from the family restaurant to the gentlemen’s club. The conference and banqueting facilities for up to 300 people are fitted with the latest equipment. The professional staff will do their best to assure the success of your event.

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Visa

Assistance

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Ample car

park

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Airport

Transfers

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Money

Exchange

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Airline

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Valet Parking

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Outdoor

Catering

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Conference

Facilities

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Business

Centre & Outdoor Catering

Service<font size="2">:

Our Business Centre offers full

round-the-clock business

facilities, day or night we

provide secretarial assistance

with communications to

telephone, tele-fax and Internet

connectivity. Business

conferences can also be arranged

and are hosted in our fully-

equipped conference centre (JENAN)

— A fully dedicated banqueting

department to meet every need.

We also provide a translation

service into the local language

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for those important business

documents.</font></td>

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APPENDIX I

STATISTICAL TEST COMPUTATION

COMPUTATION:

Frequency Mean (FM) = $\frac{\sum f (x_1 + x_2 + \ldots x_n)}{N}$

Where:

f = frequency or number of times that a given number (x) was chosen by the respondents as rating for a given criterion.

x = represents any of the numerical ratings 1,2,3,4,5 representing the evaluator's rating options for each given criterion.

n = refers to the sample size or the total number of respondents.

Frequency Table for Existing System

Criteria	1 (P)	2 (F)	3 (G)	4 (VG)	5 (E)
Accuracy	0	10	10	5	0
Efficiency	5	5	10	5	0
Reliability	0	5	10	10	0
Conciseness	5	5	10	5	0
User-friendliness	0	5	10	10	0

$FM_{accuracy} = \frac{[(1*0) + (2*10) + (3*10) + (4*5) + (5*0)]}{25}$

$= 2.80$

$FM_{efficiency} = \frac{[(1*5) + (2*5) + (3*10) + (4*5) + (5*0)]}{25}$

$= 2.60$

$FM_{reliability} = \frac{[(1*0) + (2*5) + (3*10) + (4*10) + (5*0)]}{25}$

$= 3.20$

$FM_{conciseness} = \frac{[(1*5) + (2*5) + (3*10) + (4*5) + (5*0)]}{25}$

$= 2.60$

$FM_{user\text{-}friendly} = \frac{[(1*0) + (2*5) + (3*10) + (4*10) + (5*0)]}{25}$

$= 3.20$

Existing System

Criteria	WM_{ES}	Adjective Equivalent	WM^2_{ES}
Accuracy	2.80	Good	7.84
Efficiency	2.60	Good	6.76
Reliability	3.20	Good	10.24
Conciseness	2.60	Fair	6.76
User-friendliness	3.20	Good	10.24

$WM_E = 2.88$ $\sum = 41.84$

Frequency Table for Designed System

Criteria	1 (P)	2 (F)	3 (G)	4 (VG)	5 (E)
Accuracy	0	0	10	5	10
Efficiency	0	0	10	10	5
Reliability	0	5	5	10	10
Conciseness	0	0	10	10	5
User-friendliness	0	0	10	5	10

$FM_{accuracy} = \frac{[(1*0) + (2*0) + (3*10) + (4*5) + (5*10)]}{25}$

$= 4.00$

$FM_{efficiency} = \frac{[(1*0) + (2*0) + (3*10) + (4*10) + (5*5)]}{25}$

$= 3.80$

$FM_{reliability} = \frac{[(1*0) + (2*0) + (3*5) + (4*10) + (5*10)]}{25}$

$= 4.20$

$FM_{conciseness} = \frac{[(1*0) + (2*0) + (3*10) + (4*10) + (5*5)]}{25}$

$= 3.80$

$FM_{user\text{-}friendly} = \frac{[(1*0) + (2*0) + (3*10) + (4*5) + (5*10)]}{25}$

$= 4.00$

Designed System

Criteria	WM_{DS}	Adjective Equivalent	WM^2_{DS}
Accuracy	4.00	Very Good	16.00
Efficiency	3.80	Excellent	14.44
Reliability	4.20	Good	17.64
Conciseness	3.80	Very Good	14.44
User-friendliness	4.00	Excellent	16.00

$WM_D = 3.96$ $\sum = 78.52$

Weighted Mean (WM) = $\frac{\sum f (x_1 + x_2 + \ldots x_n)}{N}$

Where:

f = the summation of all frequency means

n = the total number of criteria

$WM_{existing} = (2.80 + 2.60 + 3.20 + 2.60 + 3.20)$

$= 2.88$

5

$WM_{designed} = \frac{(4.00 + 3.80 + 4.20 + 3.80 + 4.00)}{5}$

= 3.96

Hypothesis Testing

Ho: $WM_E = WM_D$ There is no significant difference between the existing system and designed system in terms of user's evaluation rating

Ha: $WM_E \neq WM_D$ There is significant difference between the existing system and designed system in terms of user's evaluation rating

Formula:

$$t_{computed} = \frac{WM_D - WM_E}{\sqrt{\frac{\sum WM_D^2 + \sum WM_E^2}{n\,(n-1)}}}$$

Where:

t = test value

n = refers to the sample size or the total number of respondents.

n-1 = degree of freedom, at 0.05 level of significance

WM_D = weighted mean of the Designed System

WM_E = weighted mean of the Existing System

$\sum WM_D^2$ = summation of mean of the Designed System

$\sum WM_E^2$ = summation of mean of the Existing System

$$t_{computed} = \frac{3.96 - 2.88}{\sqrt{\frac{78.52 + 41.84}{25\,(25-1)}}}$$

$$= \frac{1.08}{\sqrt{\frac{120.36}{600}}}$$

$$= 1.08 / 0.447 = 2.416$$

Level of Significance = 0.05

$t_{tabulated} = 1.699$

Decision Rule:

If $t_{computed}$ is < $t_{tabulated}$, accept the Ho and reject the Ha

If $t_{computed}$ is > $t_{tabulated}$, reject Ho and accept the Ha.

Conclusion:

Based on the results of the t-Test, the researcher arrived at 2.416 t-computed which is greater than the 1.699 t-tabulated at 0.05 level of significance. The researcher accepts alternative hypothesis (Ha) and rejects null hypothesis (Ho). Therefore, there is a significant difference between the existing system and designed system in terms of user's evaluation rating.

APPENDIX J

SOFTWARE DEVELOPMENT COST

COMPUTATION FOR THE DEVELOPMENT COST

HARDWARE DEVELOPMENT COST		
Hardware Acquisition Cost	BHD	
2 -Computer Package		350.000
Pentium IV 2.0 GHz		
Intel Motherboard		
Seagate 20 GB Hard Disk Drive (7200 Rpm)		
Intel 128 MB SD RAM		
LG DVD / CDROM		
LG 17” Monitor		
Robotics Modem internal		
DTS Keyboard		
Sound & Video card		
Display Adapters		
Network Card		
Logitech Mouse		
Total Hardware Acquisition		BD 700.000

Life Expectancy 3 years
Development Period 3 months

Salvage Value = [(Hardware Acquisition Cost/Life Expectancy)*Devt Period]
12

Salvage Value = [(700/3)*3]
12
Salvage Value = 58.333

Annual Depreciation Cost = (Hardware Acquisition Cost – Salvage Value)
Life Expectancy
Annual Depreciation Cost = (700 – 58.333)
3
Annual Depreciation Cost = 213.889

Monthly Depreciation Cost = Annual Depreciation Cost / 12
Monthly Depreciation Cost = 213.889 / 12
Monthly Depreciation Cost = 17.824

Hardware Development Cost = Monthly Depreciation Cost * Dev. Period
Hardware Development Cost = 17.824 x 3 = 53.472

Hardware Development Cost = 53.472

A. SOFTWARE DEVELOPMENT COST

MS Windows XP 125.000
Adobe Photoshop 45.000
Microsoft FrontPage 60.000
Software Cost **BD 230.000**

Life Expectancy 2 years
Development Period 3 months

Salvage Value = [(Software Cost/Life Expectancy)*Development Period]
12

Salvage Value = [(230/2)*3]
12
Salvage Value = 28.75

Annual Depreciation Cost = (Software Cost – Salvage Value)
Life Expectancy
Annual Depreciation Cost = (230 –28.75)
3
Annual Depreciation Cost = 67.10

Monthly Depreciation Cost = Annual Depreciation Cost / 12
Monthly Depreciation Cost = 67.10/12
Monthly Depreciation Cost = 5.60

Software Development Cost = Monthly Depreciation Cost * Dev. Period
Software Development Cost = 5.60*3

Software Development Cost = 16.800

B. LABOR COST

Labor Cost = 5Developers Fee * Development Period
Labor Cost = (5 x 250) = 1250 * 3

Total Labor Cost = BD 3,750.00

C. MISCELLANEOUS

Epson Ink	30.00
Bond Paper (1 ream)	5.00
Internet Fee	36.00
CD's and Diskettes	3.00
Others (Photocopy Copy, Book Bind, Snack)	90.00

Total Miscellaneous BD 164.00

SUMMARY

A. Hardware Development Cost	**53.472**
B. Software Development Cost	**16.800**
C. Labor Cost	**3750.000**
D. Miscellaneous	**164.000**

TOTAL DEVELOPMENT COST BD 3,984.272